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A Clinical Evaluation of Adrenal Cortical Function*

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Formerly, the adrenal cortex was considered significant because of the role it assumed in the pathogenesis of Addison's disease,[1] Cushing's syndrome,[2] and the adreno-genital syndrome. More recently investigation is being directed toward establishing the significance of adrenal cortical function in general body economy and in various disease processes, since the isolation and synthesis of 28 steroid hormones from the adrenal cortex has provided a basis for such advances.[3]

However, the investigation of the physiological properties of these compounds has only begun, since one of the main obstacles to the clarification of this problem is the great difficulty in determining the amount and types of steroid compounds produced in any given condition. The chemical methods involve long, complicated, and expensive extracting procedures rendering them impractical for extensive clinical investigation. Therefore, one is forced to rely on procedures which depend upon the effect of the steroid hormones in question rather than upon a direct chemical determination of the substance. This functional approach to the problem is, of course, subject to the added error of certain assumptions involving the responsiveness of the target organ and other intermediate steps, but consists essentially in the production of an adrenal insufficiency and the correction of the physiological alterations with the various steroid hormones. The physiological alterations which must be corrected following adrenalectomy include: (1) marked shortening of the life span,[4, 5, 6, 7] (2) diminution in work capacity,[8, 9, 10] (3) hypotension with ultimate circulatory collapse[11] and hemoconcentration, (4) decrease of maximum metabolic levels to those of basal metabolism,[12] (5) hypoglycemia and diminution in liver glycogen,[13, 14] (6) an accumulation of nitrogenous products in the blood,[15] (7) loss of sodium, retention of potassium,[16] and the development of an uncompensated nonvolatile acidosis,[17] (8) hyperplasia of the thymus and lymphatic structures of the body.[18]

Many of the steroid compounds have been assayed to determine their potency in reversing these effects of adrenal insufficiency. As a result of this the compounds have been divided into three functional groups. The first of these groups includes steroids which correct the hypoglycemia and glycogen loss resulting from adrenal cortical insufficiency. This group is characterized by steroids with an oxygen atom in the 11th position and includes compounds B, A, F, and E of Kendall which have varying potency in this respect. This correction in glucose metabolism is effected by the production of carbohydrates from protein,[14] and this group of steroids has been termed the S group or 11-oxysteroid group. The second group includes steroids concerned with the alteration in mineral and water metabolism, and includes desoxycorticosterone acetate as the most potent known representative. The hemoconcentration, hypotension, and shock manifestations of adrenal insufficiency are largely corrected by the members of this group while there is a certain amount of overlapping in function with other groups.[20] The third group of steroids is androgenic and has an effect which promotes nitrogen storage and growth, and for this reason has been termed the N group of hormones.[21] Androgens other than testosterone are produced in the adrenal cortex.

Thus a clinical evaluation of adrenal function in any patient must include tests which give information regarding the main functional groups of steroids. It is not the purpose of this paper to evaluate all of the known methods of adrenal testing, but rather to point out a convenient routine designed to bring out these functions.

Procedure

The following procedure has been found applicable to both in and out patients, and has been adopted for these studies after trying several less satisfactory routines.

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1. The patient is instructed to go without food or fluids after 6:00 P.M. the evening before the test.

2. All urine is collected from 10:30 P.M. until 7:30 A.M., its volume measured, and chloride urea, creatinine, uric acid, and 17-ketosteroids determined.

3. Blood is drawn at 8:00 A.M. and urea, chlorides, circulating eosinophils (using phloxine glycol stain), and glutathione determined.

4. From 8:30 until 9:15 A.M. the patient drinks 9 cc. of water per pound of body weight. Urine specimens are collected at 9:30, 10:30, 11:30, and 12:30 and the volumes measured. Creatinine, uric acid, and 17-ketosteroid determinations are made on the 9:30 and 12:30 collections.

5. Adrenalin, 1-1000 solution, .3 cc. is given at 8:30.

6. Blood is drawn at 12:30 for glutathione and eosinophil determinations.

From the data collected the values described in the following sections were derived.

For the 17-ketosteroid determinations small 10-20 cc. volumes of urine were used. Hydrolysis with HCl over the steam bath was used and the steroids extracted with ether, washed with sodium bicarbonate and potassium hydroxide solutions and the Zimmerman reaction, according to the method of Haltorf and Koch, applied to the residue. The eosinophiles were counted directly in the counting chamber using phloxine glycol stain. Uric acid was determined by the method of Benedict and Franke, and creatinine by the method of Folin. Glutathione was determined by the method of Benedict and Gottschall.

Status of Protein and Carbohydrate Metabolism

Several methods are available for the evaluation of these functions. The lipoid extract of the urine from a subject may be assayed for its potency in causing glycogen storage in the liver of the adrenalectomized mouse.[26] This method requires a completely equipped animal laboratory and is not applicable for routine use. Procedures have been devised[27] for the chemical determination of lipoid soluble reducing substances in the urine, since these substances reflect the excretion of the steroids of this group.

It has been demonstrated[28, 29] that the steroids of this group produce certain hematologic changes including a decrease in eosinophiles,[30] and increase in the neutrophilic polymorphonuclears. Thorne et al,[31] demonstrated that adrenocorticotrophic hormone (ACTH) stimulated the adrenal cortex to secrete its hormones and in turn produce the hematologic changes. The change in the eosinophile count, as determined by direct counting methods, was found to be the most significant. A drop of 50 per cent in the circulating eosinophile count was considered evidence of normal adrenal function in this respect. Long[32] showed that adrenalin provoked the pituitary to produce adrenocorticotrophic hormone and in turn produce the same hematologic changes as was produced by the adrenocorticotropic hormone itself.[33]

Due to the difficulty in obtaining adrenocorticotrophic hormone preparations this adrenalin test was used in these studies. A fairly small dose of adrenalin (.3 mg.) was used on the assumption that minimal stimulation would tend to bring out greater or lesser degrees of insufficiency. A period of four hours following the injection of the adrenalin was necessary before the maximal response was obtained. This test, of course, has the disadvantage of not distinguishing between pituitary and adrenal function which is, however, preferable for a screening proce-

SUMMARY OF CASES

CASE	CLINICAL DIAGNOSIS	EO INIT	% CHANGE	U/C INIT	% CHANGE	GSH INIT	GSH AFTER	WF	17-KS NIGHT	17-KS AM	17-KS NOON
WM68	Bronchiectasis	102	-60	.125	-48			18	5.64	9.04	13.44
CF54	Osteoarthritis	72	-42	.327	+30				8.35	9.25	
CF35	Latent syphilis	50	-12	.320	+25				8.95	6.25	17.62
WF71	Osteoporosis	135	-34	.470	+15				8.39	5.55	9.26
CF54	Depression	188	-49	.250	+20				8.70	6.90	
WF30	Obesity	178	-73	.390	+82				13.64	19.40	17.00
WF49	Anxiety state	194	-53	.330	+46				27.50	19.50	36.20
WM31	Anxiety state	93	-73	.167	+28			422	8.60	12.80	6.70
CM42	Normal	263	-62	.700	+56				10.20	13.30	11.90
WF29	Anxiety state	322	-10	.340	+ 8			163	8.70	6.10	9.34
CF18	Pelvic infection	51	-50	.231	-20			55	14.55	18.00	11.55
CF49	Infected dermatitis	85	-53	.610	-50			47	5.06	7.55	6.18
WF19	Pregnant 5 mos.	133	-73	.380	+13			112	11.85	17.15	15.35
WF42	Rheumatoid arthritis	231	-70	.250	+ 8			137	6.80	8.41	16.10
WF25	Normal	118	-85	.137	+46			128	15.50	28.30	22.90
WF39	Anxiety state	41	-22	.268	+ 7	41	40	44	7.80	10.00	10.00
WF30	Normal	350	-61	.133	+121	36	29	168	8.84	8.15	8.18
CM47	Peptic ulcer	272	-78	.318	-19	28	26	44	11.35	10.40	16.90
WF50	Anorexia nervosa	109	-24	.374	- 4	30	25	84	7.26	6.77	6.72
WM19	Pneumonia (conv)	60	-55	.380	+42	30	31	49	15.20	17.64	40.40
WF68	Gout	1180	-58	.403	-17	36	33	20	4.77	9.44	18.10
CM42	Lung abcess	542	-12	.318	- 8	25	20	22	3.75	3.33	3.44*
CM30	Toxic goiter	13	-15	.250	+ 4			50	4.86	6.04	5.83*
WM28	Normal	402	-44	.252	+16	35	33	113	7.95	9.45	9.88*
CM45	Peptic ulcer	173	-27	.350	-16	25	26	107	4.95	3.85	1.13*
CM31	Peptic ulcer	118	-16	.262	- 5	31	27	108	5.15	8.23	8.13*
WM25	Normal	423	-67	.303	+23	48	45	58	5.98	10.70	6.96*
WF68	Ca of cervix	222	-58	.425	- 3	31	26		4.23	4.82	3.98*
WF30	Normal	91	-65	.286	+68	37	31	132	14.10	12.50	16.10*
CM30	Peptic ulcer'	72	-50	.291	-10	30	24	55	5.57	4.13	4.80*
WM49	Amyotrophic l.s.	200	-48	.435	-10	33	37	504	8.25	6.45	5.35*
WM59	Adrenal insufficiency	76	0	.364	+23	42	47	30	4.40	3.60	5.20
WF18	Dermatomyositis	22	-59	.385	+52	36	32	20	4.64	5.45	5.00*
WF49	Rheumatoid arthritis	400	-69	.266	+15	42	42	8	12.20	11.50	11.60
WF22	Normal	126	-33	.122	+16	28	29	58	10.00	11.30	16.40
WF44	Adrenal insufficiency	179	-13	.250	0	39	39	21	7.75	10.50	7.00
CF47	Diabetes,hirsutism	45	-64	.311	+ 8	31	31		4.55	3.80	5.80*
WF50	Normal	361	-49	.443	-22	40	46	84	7.50	6.20	8.50*
WF23	Anorexia nervosa	305	-74	.303	+33	36	24	65	4.55	5.00	*
WF45	Cirrhosis	150	-55	.374	-57	28	24	15	2.63	3.29	4.62*
WF33	Adrenal insufficiency	338	+30			20	23		1.32	2h hr	

* Chloroform extracted; EO Init, initial eosinophil count; GSH,blood glutathione; WF,Kepler-Power water function test; U/C,uric acid-creatinine ratio.

Figure 1

dure since it is quite likely that adrenalin represents the physiological instigator of the pituitary-adrenal mechanism.

Since this particular group of hormones causes an increased nitrogen excretion, changes in this may be an indication of activity of the S group of hormones. The urinary uric acid is normally increased following adrenal stimulation by adrenalin or adrenocorticotrophic hormone and, therefore, represents another method of measuring the activity of the S group of hormones. Again, there is a latent period of about four hours between the stimulation and the appearance of maximum effects. The changes in the uric acid may be expressed as excretion of uric acid per hour or more conveniently as a uric acid creatinine ratio since creatinine is excreted at a fairly constant rate; therefore, serving as a base line for changes in the excretion of other substances.

The eosinophile response before and after adrenalin was determined in 41 cases. The average drop in the count per cubic millimeter was 48 per cent. (Figure 1) One case diagnosed Addison's disease showed a rise and another diagnosed adrenal insufficiency showed no change. The per cent of drop did not appear to be correlated with the initial number of cells either in the low or high ranges. No particular relation could be noted between the initial level and the type of disease, except that most of the very low levels were associated with active inflammatory disease. It is questionable whether this low level is due to bone marrow depression or to some residual adrenal effect, but theoretically either factor might play a part.

The increase in the urinary uric acid-creatinine ratio was determined in 40 cases. The average rise in the ratio was 22 per cent in 26 cases and no rise or an actual fall occurred in 14 cases. No correlation could be made between the magnitude of change in the uric acid-creatinine ratio and the change in the circulating eosinophiles. Both of these effects are thought to be the result of action of the 11-oxysteroid class of compounds but must involve other variables at the end organ. Higher doses of adrenalin might give rise to greater uric acid increases but still would not explain this difference in response. For practical purposes, responses in which the uric acid decreases, are considered as no change. The change in the eosinophiles would seem to be a more reliable index of S hormone function than the change in the uric acid. However, the latter was included in this study in order to have some measure of the changes in nitrogen metabolism. Conn[34] pointed out the depressing effect of ACTH on the blood glutathione levels. Glutathione determinations were made before the administration of adrenalin and four hours after this. This procedure was carried out on 24 patients. The average fasting level was 34 mg. per 100 cc. of blood. A decrease in the level was noted in 17 of the patients at the end of four hours and the average decrease was 3.6 mg. One patient showed no change while seven patients showed an increase. The three cases of adrenal insufficiency were included among those showing no change or an increase. Thus it would appear that the change in the glutathione is of some significance in the evaluation of adrenal function. No correlation could be found between the fasting glutathione levels and the value of the water function test, change in uric acid, or change in the eosinophiles. At this time it is difficult to ascribe the changes in glutathione to any one of the groups of adrenal steroids but evidence is suggestive so far that this effect is related to carbohydrate metabolism so for the present it is tentatively considered as a measure of S hormone or 11-oxysteroid function.

Status of Water and Electrolyte Function[25]

Several procedures have been used in an attempt to evaluate this particular function since no satisfactory chemical or animal assay method is available. The Cutler-Power-Wilder Test based upon the failure of the nonfunctioning adrenal cortex to effect the retention of sodium and chloride during a period of salt deprivation is much too lengthy for routine use.[22] Furthermore, it evaluates largely the electrolyte changes and does not render information regarding any change in water function. The Robinson-Power-Kepler test[23] has been selected because of its convenience, its established value in the diagnosis of Addison's disease, and because it gives evidence both of water and electrolyte function. The test has been carried out in these studies according to the original procedure, except that both parts have been carried out routinely in each case and the calculations made to establish the value of the index A. It was thought that perhaps the magnitude of this index could be correlated with the other functions of the adrenal gland measured in these studies.

$$A = \frac{\text{urinary urea}}{\text{plasma urea}} \times \frac{\text{plasma Cl}}{\text{urinary Cl}} \times \frac{\text{largest day volume}}{\text{night volume}}$$

Another procedure designed to measure the electrolyte function of the adrenal cortex is the determination of the sweat chloride.[24] This procedure has not been readily adaptable to routine work because of lack of a reliable method for producing and collecting the sweat secretion.

Results of the "water function" test are presented for 29 cases. The average value for this was 72. All of the patients having values below this average were cases of organic disease with one exception in which there was some question about

the urine collection. It is noted that all of the normals with this one exception fall into the group having values above this average. Six of the cases showed values below 30, which is in the range where Addison's disease cannot be excluded. The diagnoses in these cases are: severe active rheumatoid arthritis, advanced bronchiectasis with pneumonitis, gouty arthritis, dermatomyositis, lung abscess, and adrenal insufficiency. None of these cases showed any evidence of kidney disease clinically. Thus there is noted a definite tendency for the value of the water function test to reflect the extent of the disease process with active inflammatory disease showing the low values along with clinical adrenal insufficiency.

Status of the Androgenic Function

This function may be evaluated by determination of androgen excretion in the urine using animal assay. It may be evaluated chemically by determination of the urinary 17-ketosteroids. For convenience a modification of the micro method described by Drekter et al[35] has been used. Rather than collecting 24-hour urine specimens, the 17-ketosteroid-creatinine ratio has been used, thus avoiding the difficulties and inaccuracies of timed urine collections. A normal diurnal variation for 17-ketosteroids has been reported with levels lowest during the night, highest shortly after awakening, and decreasing then throughout the day. This diurnal variation has been found to occur in a statistically significant group of normals,[36] but is found to be absent in patients with mental disturbances. Therefore, 17-ketosteroid creatinine ratios were determined on specimens collected at night, on arising, and at noon. Normally the ratio of the night 17-ketosteroid to the morning 17-ketosteroid should be less than 1.00. Albright[21] postulated that the androgenic function of the adrenal cortex was under different control than the other metabolic functions. However, Thorne[37] has shown that 17-ketosteroid excretion is increased following the administration of ACTH. Therefore, the ratio of 17-ketosteroids excreted in the urine four hours following adrenal stimulation to that of the amount found in the night collections of urine should give evidence of 17-ketosteroid response to adrenalin. This ratio should then normally be greater than one.

Two different methods were used, one using the Zimmerman reaction for total neutral fraction, and the other applying a chloroform extraction[38] of the chromogenic product of the Zimmerman reaction to exclude interfering chromogens. For the first method the average value was 11.00 and for the second 7.95 (expressed as micrograms of steroid per milligram of creatinine). Sixteen of the patients showed night-morning ratios above 1.00, while 20 showed ratios below this. Ratios were also compared between morning and noon specimens after adrenalin, but as many showed a rise in the 17-ketosteroid excretion as showed a fall. Therefore, no significance could be attached to this and it could not be said that adrenalin at this dosage plays any part in elevation of ketosteroid excretion. Since values normally fall between morning and noon it is possible that the adrenalin prevented a greater decrease in rate of excretion; however, that could not be determined from these studies.

Adrenal Function Profile

The functions of the adrenal cortex are seen to be many and varied and frequently there is little correlation between the changes as determined by the different methods of testing. The methods outlined above are designed to give evidence of the status of function in the spheres of carbohydrate and protein metabolism, mineral metabolism, and androgen production. For convenience the results of the testing are arranged in the form of a profile so that the given value can be indicated by drawing a line at the particular location on the graph. The profile is so arranged that the *average* values, (Figure 2), of the different determinations fall along a central line, while values above the line are in the direction of increased adrenal cortical function and values below the line are in the direction of decreased function. An attempt was made to set up each column

ADRENAL FUNCTION PROFILE

CHO			MINERAL			ANDROGEN		
Eo	U/C	GSH	WF	Na	K	17KS	17KSe	N/AM
	100							
	95							
	90	-7	200			36.00	22.00	
	85		190			34.00	21.00	
	80		180			32.00	20.00	
100	75		170			30.00	19.00	
95	70	-6	160			28.00	18.00	
90	65		150			26.00	17.00	
85	60		140			24.00	16.00	
80	55		130		2	22.00	15.00	.20
75	50	-5	120			20.00	14.00	
70	45		110	160	3	18.00	13.00	.40
65	40		100			16.00	12.00	
60	35		90	150	4	14.00	11.00	.60
55	30	-4	80			12.00	10.00	
50	25		70	140	5	10.00	8.00	.80
45	20		60			8.00	7.00	
40	15	-3	50	130	6	6.00	6.00	1.00
35	10		40			4.00	5.00	
30	5		30	120	7	2.00	4.00	1.20
25	0	-2	20			0.00	3.00	
20			10	110	8		2.00	1.40
15			0				1.00	
10		-1		100			0.00	1.60
5								
0								

Figure 2

Abbreviations:

Eo	Percent decrease in circulating eosinophils.
U/C	Percent increase in the uric acid creatine ratio.
GSH	Decrease in blood glutathione.
WF	Results of the water function test.
Na	Serum sodium (milliequivalents).
K	Serum potassium (milliequivalents).
17KS	17-ketosteroid/creatinine. (Unextracted)
17KSe	17-ketosteroid/creatinine. (Extracted)
N/AM	Ratio of night 17-ketosteroid excretion to morning excretion.

of figures so that comparable values for the different tests would fall at about the same level from the "average" line. However, this could not be done accurately because of the lack of correlation between the magnitude of variation of the different tests. The criteria of a base line for "normal" function could not be established from these studies largely because of the difficulty in obtaining subjects who are definitely normal, since such non-specific things as emotional and nutritional disturbances are known to produce changes in adrenal cortical function.

An examination of the results in this series of cases shows that one or several of the function tests may be normal and several others quite abnormal. Therefore, for a diagnosis of true Addison's disease it is necessary to have grossly diminished function in all spheres. The term adrenal insufficiency becomes rather ambiguous in the light of these studies and probably should be qualified by a statement as to the type or types of insufficiency present. Again such a terminology is subject to severe criticism because most of the adrenal cortical function tests are tests of response and not tests of actual adrenal function and information is wanting in most cases when an attempt is made to distinguish between steroid hormone production by the adrenal and end organ response on the other hand.

In Figure 3 examples of rather typical cases are shown. Figure 3A shows the profile of a clinically normal person. The levels of function are indicated in each category and it is seen that they all fall near the "average" line. (Sodium and potassium determinations have not been included in the routine examinations, so are not marked.) Figure 3B shows the values from a patient diagnosed Addison's disease, and it is seen that most of the values are well below the average line. Figure 3C shows an example of dissociated response with good response in the first two groups and poor response for the androgenic group. This last patient has been diagnosed and treated for cirrhosis of the liver.

CHO			MINERAL			ANDROGEN		
Eo	U/C	GSH	WP	Na	K	17KS	17KS*	N/AM
	100							
	95							
	90	-7	200			36.00	22.00	
	85		190			34.00	21.00	
	80		180			32.00	20.00	
100	75		170			30.00	19.00	
95	70	-6	160			28.00	18.00	
90	65		150			26.00	17.00	
85	60		140			24.00	16.00	
80	55		130		2	22.00	15.00	.20
75	50	-5	120			20.00	14.00	
70	45		110	160	3	18.00	13.00	.40
65	40		100			16.00	12.00	
60	35		90	150	4	14.00	11.00	.60
55	30	-4	80			12.00	10.00	
50	25		70	140	5	10.00	8.00	.80
45	20		60			8.00	7.00	
40	15	-3	50	130	6	6.00	6.00	1.00
35	10		40			4.00	5.00	
30	5		30	120	7	2.00	4.00	1.20
25	0	-2	20			0.00	3.00	
20			10	110	8		2.00	1.40
15			0				1.00	
10		-1		100			0.00	1.60
5								
0								

Figure 3A

CHO			MINERAL			ANDROGEN		
Eo	U/C	GSH	WP	Na	K	17KS	17KS*	N/AM
	100							
	95							
	90	-7	200			36.00	22.00	
	85		190			34.00	21.00	
	80		180			32.00	20.00	
100	75		170			30.00	19.00	
95	70	-6	160			28.00	18.00	
90	65		150			26.00	17.00	
85	60		140			24.00	16.00	
80	55		130		2	22.00	15.00	.20
75	50	-5	120			20.00	14.00	
70	45		110	160	3	18.00	13.00	.40
65	40		100			16.00	12.00	
60	35		90	150	4	14.00	11.00	.60
55	30	-4	80			12.00	10.00	
50	25		70	140	5	10.00	8.00	.80
45	20		60			8.00	7.00	
40	15	-3	50	130	6	6.00	6.00	1.00
35	10		40			4.00	5.00	
30	5		30	120	7	2.00	4.00	1.20
25	0	-2	20			0.00	3.00	
20			10	110	8		2.00	1.40
15			0				1.00	
10		-1		100			0.00	1.60
5								
0								

Figure 3B

CHO			MINERAL			ANDROGEN		
Eo	U/C	GSH	WP	Na	K	17KS	17KS*	N/AM
	100							
	95							
	90	-7	200			36.00	22.00	
	85		190			34.00	21.00	
	80		180			32.00	20.00	
100	75		170			30.00	19.00	
95	70	-6	160			28.00	18.00	
90	65		150			26.00	17.00	
85	60		140			24.00	16.00	
80	55		130		2	22.00	15.00	.20
75	50	-5	120			20.00	14.00	
70	45		110	160	3	18.00	13.00	.40
65	40		100			16.00	12.00	
60	35		90	150	4	14.00	11.00	.60
55	30	-4	80			12.00	10.00	
50	25		70	140	5	10.00	8.00	.80
45	20		60			8.00	7.00	
40	15	-3	50	130	6	6.00	6.00	1.00
35	10		40			4.00	5.00	
30	5		30	120	7	2.00	4.00	1.20
25	0	-2	20			0.00	3.00	
20			10	110	8		2.00	1.40
15			0				1.00	
10		-1		100			0.00	1.60
5								
0								

Figure 3C

Summary and Conclusions*

1. An evaluation of pituitary adrenal function in the spheres of carbohydrate and protein metabolism, water and electrolyte metabolism, and androgen production is presented from 41 cases, including normal and disease states.

2. Blood glutathione decreases significantly after the injection of adrenalin. This decrease does not occur in the presence of adrenal insufficiency.

3. Rather striking deviations are noted in the results of different types of tests in the various disease states. In a true Addison's disease depression of all of the functions is recorded.

* Note: These studies were carried out with the technical assistance of B. J. Slinker, A.B., M.T.

4. A convenient method of tabulating the results of the different tests is presented along with typical examples from the series of cases.

5. It is concluded that an evaluation of adrenal function can not be made with any single test.

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A Discussion of the Prognosis and Etiology of the Wolff-Parkinson-White Syndrome*

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The syndrome which bears the name of Wolff, Parkinson and White[1] is characterized electrocardiographically by a shortened P-R interval and a lengthened QRS complex, and clinically by its occurrence in presumably healthy young people prone to attacks of paroxysmal tachycardia. A review of the recent literature alters one's concept of the benignity of the condition in view of the facts that some of the attacks of paroxysmal tachycardia have been shown to be ventricular in origin and an increasing number of cardiac deaths is being reported in this syndrome.

Formerly the paroxysmal tachycardia of this syndrome was considered to be auricular or nodal in origin. Hunter, Papp and Parkinson[2] first described paroxysmal ventricular tachycardia as a form of arrhythmia in two patients with the W.P.W. syndrome. Three additional cases were reported by Levine and Beeson.[3] Palatucci and Knighton[4] have described a further case. Missal, Wood and Leo[5] reported the case of a 20-year-old male who developed right heart failure during an attack of paroxysmal tachycardia associated with this syndrome. Klainer and Joffe[6] added another case to this small series in the same year and with Arana and Cossio[7] bring the total number of cases up to nine.

In 1938 Arana and Cossio[7] reported the first death associated with this syndrome. Their patient had episodes of auricular fibrillation as well as paroxysmal ventricular tachycardia. Wood, Wolferth and Geckler[8] reported the case of a 13-year-old boy with this syndrome who died of congestive heart failure two hours following the onset of an attack of paroxysmal tachycardia. Kimball and Burch[9] reviewed the recent literature and reported eight deaths in which the W.P.W. syndrome was considered responsible.

There has been considerable speculation concerning the mechanisms responsible for the W.P.W. syndrome. The possible existence of an accessory pathway of auriculo-ventricular conduction was suggested by Holzmann and Scherf[10] in 1932. It was also proposed independently by Wood and Wolferth.[8] The recently reported ingenious experiments of Butterworth and Poindexter[11] show that similar electrocardiograms with a shortened P-R interval and prolonged QRS complex can be produced in animals by the introduction of an artificial accessory pathway. Wood, Wolferth and Geckler[8] presented the first histological proof of the existence of accessory muscular connections between the auricles and ventricles in their case quoted above. Boyer[12] points out that there are several features of the syndrome that are not satisfactorily explained by the theory of an accessory auriculo-ventricular band. The electrocardiographic pattern tends to disappear with advancing age, yet vagal tone which has been implicated[15] in the mechanism of the syndrome increases rather than decreases with age. A somewhat more important objection is to be found in the failure of multiple precordial leads to establish the existence of early excitation of one or the other ventricle such as is found in true bundle branch block. This point is demonstrated clearly in Figure 1, in V-1 to V-6 where there is no perceptible difference noted in the time required for the intrinsic deflection of the precordial leads taken from the right as compared

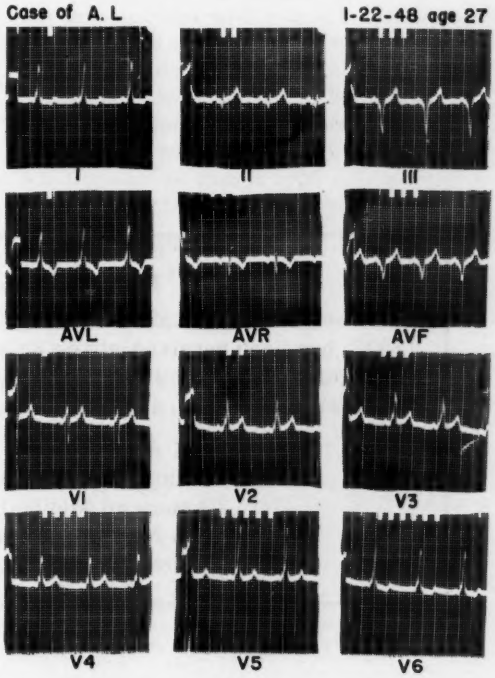

FIG. 1

* Sponsored by the VA and published with the approval of the Chief Medical Director. The statements and conclusions published by the authors are a result of their own study and do not necessarily reflect the opinion or policy of the Veterans Administration.

Presented to the meeting of the Kansas Heart Association at Winter VA Hospital, on December 11, 1947.

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with similar leads taken from the left side of the precordium.

Other etiological mechanisms which have been considered responsible for the W.P.W. syndrome may be briefly mentioned. A possible relationship between congenital cardiac lesions and anomalous conduction bands between the auricles and ventricles has been considered. Stein[13] reported a case of congenital heart disease with the W.P.W. syndrome, but stated that the case gave no true evidence of the congenital origin of this disturbance. Westfall and Burdon[14] failed to establish the existence of a congenital heart lesion in their case of polycythemia vera associated with the W.P.W. syndrome, an association which they believe to be incidental. Fox, Travell, and Molofsky[15] described the case of a 20-year-old man who had transient episodes of the electrocardiographic pattern of the W.P.W. syndrome. They were able to widen the QRS interval with digitalis and shorten it with atropine. They assumed, therefore, that there is a vagal component in the mechanism of the syndrome.

Summary

A review of the current literature regarding the prognosis of the W.P.W. syndrome is discussed. It is suggested that the syndrome is not as benign as has previously been assumed.

The possible mechanisms implicated in the W.P.W. syndrome have been reviewed. None of these has been definitely established.

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NEW A.M.A. DIRECTORY

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Primary Carcinoma of Intrahepatic Bile Ducts*

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Primary carcinoma of the intrahepatic bile ducts is a rare disease. The literature contains more reports of hepatomas than reports of cholangiomas. In Hayne-Kernahan's[1] series, the ratio was nearly 3:1. The literature shows that primary carcinoma of the liver occurs in an average of 0.5 per cent of cases coming to autopsy. The incidence of primary carcinoma of the liver has a definite geographic distribution. The orientals, especially the Chinese, have been shown to have a particularly high incidence of this disease. The prevalence of animal parasite infestation, especially flukes, with resultant cirrhotic changes in the liver, has been proposed as the reason for the high incidence of hepatic cancer among these orientals.

Age: Primary hepatic cancer is a disease of older age groups; in 60.3 per cent of Eggel's[2] cases, the lesion afflicted persons from 41 to 70 years of age.

Sex: This disease seems to be predominantly a disease of males. In almost two-thirds of Eggel's cases the patients were males. However, 57.1 per cent of the cancers of the bile ducts in Eggel's series occurred in women. It has been suggested that the prevalence of cholangitis in women may be a factor.

Pathology: Primary carcinoma of the liver may be divided into two types.[3]

1. Primary Parenchymatous Carcinoma (Hepatoma), composed of distorted hepatic cells which, according to the type of the tumor, may show fair differentiation or be irregular in size and shape and produce neoplastic giant cells of a bizarre appearance. Masses of bile pigment can usually be demonstrated within the cells, and this is taken to indicate that the growth is primary and of parenchymatous origin.

2. Biliary-duct Carcinoma (Cholangiomas) microscopically reveal a composition consisting of distorted biliary ducts with a resulting and decidedly tubular architecture. It is invasive and may metastasize within and outside the liver.

Metastases: According to Ewing,[4] extrahepatic metastases occur much earlier and are more frequent from cholangiomas than from hepatomas. Metastases are largely confined to regional lymph nodes. Metastatic carcinomas to the liver from other sources are from 8 to 16 times as frequent as primary carcinomas of the liver.

Prognosis and Treatment: The only possible treatment of primary carcinoma of the liver is resection of the tumor. This procedure is performed with great risk and often is unsuccessful. Wallace[5] in 1941 collected 29 cases of "removable hepatoma" from the literature and added a case of his own. Radiation for these tumors is of little value.

Clinical Picture: The most common presenting complaint is abdominal pain. Weight loss usually averages around 20-30 pounds. Fever ranges between 99-101°. Jaundice may be present if the tumor blocks any of the major bile ducts. A mild anemia is common. In a few cases a palpable tumor in the right upper quadrant may aid in the diagnosis.

Case: L.M.—K32850

A 65-year-old white male of Russian extraction entered this hospital on October 5, 1949, with a history of painless jaundice of five months duration. Onset was associated with generalized malaise, icterus, dark yellow urine, clay colored stools and pruritis. A gastrointestinal series done on June 1 was reported as negative. Cholecystectomy and liver biopsy was performed on June 10, 1949, at another hospital. Pathological report was: (1) cholecystitis, chronic; (2) cholelithiasis—interstitial hepatitis, chronic, obstructive.

Post-operatively the jaundice had increased and this was associated with epigastric cramping pain radiating to the mid-back. Patient had lost 45 pounds since onset of illness.

Physical Examination: P 78, BP 108/72, R 22, chronically ill patient with evidence of recent weight loss. Skin was yellow-green with icteric sclera. There was a questionable mass in upper right quadrant and a healed upper right mid rectus operative scar.

Laboratory Studies:

RBC	3,300,000	
Hb.	10.0 gms.	
Leukocytes	9,150	
Polys.	71	
Eosin.	2	
Lymph.	24	
Mono.	3	
Urea N_2	9.0	
Glucose	60	
Phosphate	3.9	
Ca.	11.2	
Alk. Phosphatase	22.2	(Bodansky Units)
Icterus Index	150	(Van Den Bergh + direct and indirect)
Bilirubin	18	
Cholesterol	450	
Esters	200	
Esters/total	43	
Sed. rate	68	
Prothrombin time	17.5 and 37.5 (diluted)	
Urine—sp. gr.	1.018	
+for bile		
Wasserman—negative		

* Case report from University Hospital of New York University-Bellevue Medical Center.

Cephalin—cholesterol flocc.—negative
Thymol turbidity—negative
Proteins—total 6.2
Albumin .. 3.6
Globulin .. 2.6
A/G ratio.. 1.4
Stool negative for urobilinogen
Duodenal drainage unsuccessful

Patient received 1000 cc. whole blood but continued to fail. It was decided that he probably had an extrahepatic biliary obstructive jaundice and should be explored. On October 19, 1949, an operation was performed. A right subcostal incision was used. Excessive bleeding was encountered during the entire operation. Numerous varicosities were noticed in all planes of dissection. Liver was not enlarged. There was minimal abdominal ascites. A nodular irregularity was noted in the region of the hilus of the liver. Bile could not be aspirated from the region of the common duct. Due to the excessive bleeding, it was decided that a hepatostomy should be done and at some future date a more adequate exploration would be possible. The undersurface of the right lobe of the liver was aspirated and 25 cc. of whitish liquid was obtained. A No. 16F catheter was introduced and the operation concluded with the catheter brought out through the operative incision.

Operative diagnosis was: 1. Stricture of common hepatic duct, or 2. Carcinoma of hepatic bile ducts. Thirty-six hours following operation, dark yellow bile commenced to drain from the catheter. Seven days post-operatively the blood chemistries were:

Icterus Index	98
Bilirubin	7.3
Thymol turbidity	2
Alk. Phos.	10.6
NPN	16
Cl_2	380
CO_2	65

Icterus had diminished. On October 25 a cholangiogram was done through hepatostomy tube and showed somewhat dilated intrahepatic biliary radicles with dilatation especially marked in the region of left hepatic duct. Common duct was not visualized and there was no dye in the duodenum.

On November 1, or 12 days post-operatively, patient had developed ascites which cleared up somewhat with mercuhydrin and paracentesis. Papanicolaou stains on ascitic fluid revealed tumor cells of adenocarcinoma type. Temperature ranged up to 103.8°. On November 8, 1949, or 19 days post-operatively, the hepatostomy drainage lessened. Blood chemistries were:

Icterus	150
NPN	29
Alk. Phos.	11.6
Cholesterol	95
Tot. Prot.	5.8
Alb.	2.9
Glob.	2.0
A/G	1.4

Course was downhill and on November 9 patient expired in spite of numerous blood transfusions, digitalis, oxygen, etc.

Autopsy—Final Diagnosis: Generalized arteriosclerosis; arteriosclerosis of coronary arteries; infarct of myocardium, healed, anterior wall; CARCINOMA OF LIVER, DUCT CELL TYPE, INTRAHEPATIC; secondary carcinoma of lung; jaundice; nephrosis, due to bile; old operation, cholecystectomy; recent operation, laparotomy and hepaticostomy; diffuse fibrinous peritonitis; ascites; congestion of lungs, spleen and liver; thrombosis of portal vein; splenomegaly due to portal hypertension; chronic lymphadenitis of abdominal lymph nodes; healed apical tuberculosis, right lung; fibrous pleural and peritoneal adhesions; hemosiderosis of lymph nodes and bone marrow; benign hypertrophy of prostate gland; edema of legs; cyanosis of lips and fingernail beds.

(Signed) D. Roth, M.D.

Summary

1. Primary carcinoma of the liver is a rare disease occurring in around 0.5 per cent of all autopsies. Hepatomas occur about three times as frequently as cholangiomas.

2. This disease is more prevalent in older age groups; it affects males more frequently than females.

3. Abdominal pain, anemia, and weight loss are the most common clinical manifestations.

4. Metastases are more common from cholangiomas and are usually found in the regional lymph nodes.

5. The only chance for a cure is a resection of the tumor. Radiation is of little value.

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Massive Gastro-Intestinal Hemorrhage in Pregnancy With Report of Case

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The following case is being reported because of the paucity of material in the literature concerning massive gastro-intestinal hemorrhage associated with pregnancy, and because we feel this case may indicate an association of the condition with avitaminosis C.

Greeley and Stubenbord[1] in 1941 reported a case of massive hematemesis associated with pregnancy in which a stillborn fetus was delivered. The patient was vomiting large quantities of blood at admission and had been doing so for 24 hours. She stopped bleeding shortly after admission and delivered spontaneously within the next 24 hours. She was given vitamins K and C.

Carangelo and Efstation[2] in 1948 reported four cases of massive gastric hemorrhage in pregnancy. Three of these evidenced toxemia. Those that came to autopsy (two) showed no bleeding site or gastro-intestinal pathology which could be held responsible for the hemorrhage.

Sturrock[3] in 1913 reported a case of difficult labor complicated by massive hematemesis lasting 24 hours, in which recovery from the hemorrhage was spontaneous.

Case Report

The patient, age 22, gravida I, was first seen December 3, 1946, having begun her last period September 13, 1946. She had been married one year. She reported no familial history of disease and had been operated in March of 1946 for acute appendicitis with uneventful recovery. She had had no other serious illness and had no history of hypertension. Her physical examination revealed a slightly obese white female with no abnormalities, pregnant at about three months. Her blood pressure was 170/90. Laboratory work was within normal limits. Through the routine visits of the next five months her blood pressure stayed at 150/80 and her urine was normal. The weight gain was 16 pounds.

On May 22, 1947, her blood pressure was 190/100 with a three plus albumin in the urine and a weight gain of 11 pounds in two weeks. She was placed on a salt poor diet with complete bed rest at home, hospitalization being refused. At this time, one month from term, induction was not feasible because of a high station and a long, thick cervix.

On May 29, her blood pressure was 200/100 with a three plus albumin and a weight loss of nine pounds. Hospitalization was again advised and refused. Early the morning of May 31 the patient had a convulsion and was then hospitalized. Before being placed in bed at the hospital she again convulsed and was immediately sedated with opiates and pentothal. Her blood pressure was 200/110 with four plus albumin. Heavy sedation was maintained with good control of the toxemia and 48 hours later, after an easy six-hour labor, a stillborn five-pound boy was delivered. At this time her blood pressure was 160/90, and she had had a positive water balance of some 1000 cc. for the preceding 24 hours. During the next 24 hours the patient was comatose and she was maintained on nasal oxygen with two blood transfusions, but at the end of this period she began to show response. Following delivery prophylactic penicillin was started.

Early June 4, two days after delivery, she had a large, tarry stool and through the day several other small tarry movements were passed. That evening bright blood appeared in the stools. Vitamin K as *Synkamin* was commenced. At this time blood chemistry was as follows: non-protein nitrogen, 150; blood urea, 130; calcium, 8.4; potassium, 24.1; Vitamin C, 0.5 mgm; icteric index, 18; platelets, 200,000; clotting time, three minutes; bleeding time, 1½ minutes; prothrombin time, 90 per cent. The urine was negative. The patient then became septic, the temperature going as high as 104.5. Blood transfusions and intravenous fluids were administered as needed to combat shock and anemia.

June 8, six days after delivery, the patient began to vomit copious quantities of bright blood. The largest such vomitus was 800 cc. Intermittently through the next two weeks hematemesis and tarry or bloody stools occurred with discouraging regularity. During this time the patient took some fluid nourishment by mouth as well as venoclysis. Episodes of shock were frequent and were managed by nasal oxygen and whole blood transfusions.

June 12, 10 days postpartum, a painful effusion of the left hip complicated the case further. X-ray revealed only a serous effusion of the joint without bony pathology.

By the evening of June 22, 20 days postpartum, her condition was considered so desperate that extreme measures were decided upon. Because the frankly bloody emesis and stools occurred at the time, it was decided that a wide-spread gastro-intestinal lesion must not be responsible. A tentative

diagnosis of generalized uremic ulceration was considered, but the NPN had declined to 44 mgm, and while possible, the diagnosis did not seem plausible, considering the rest of the picture. As a last measure surgical exploration was decided upon. The surgeon, among other routine orders in preparation for surgery the next day, ordered 1000 mgm. of ascorbic acid intravenously. Thereafter the patient had no more hematemesis and the stools rapidly cleared of evidence of blood. Large dosages of vitamin C were continued.

A total of 44 whole blood transfusions, type AB Rh positive, had been given.

Improvement of the hip was gradual, but one week later the patient was dismissed in good condition to complete her convalescence at home.

Comment

This case has much in common with few others in the literature. Three of the cases of Carangelo and Efstation evidenced toxemia and one had a septic temperature.

Greeley and Stubenbord apparently did not consider toxemia in their patient, but though she had been bleeding for 24 hours before admission her blood pressure was 125/85.

The administration of large dosage of vitamin C was followed, in our case, by complete cessation of hemorrhage. At the time we were not particularly impressed by this fact, but in retrospect we feel that the definite turning point was reached with the addition of that agent. This was in accordance with the experience of Greeley and Stubenbord. Hatherly[4] reports a case of massive hematemesis not associated with pregnancy, but in which no pathology was found on exploration, and which recovered quickly after large doses of vitamins C and P.

As described by Carangelo and Efstation, the study of their cases which came to autopsy revealed no lesion from which the bleeding could be said to arise. Massive hematemesis without a demonstrable lesion was referred to by White[5] in 1906 as occurring, and our more recent literature refers to it.

Eusterman[6] and Balfour[7] mention various possible underlying causes of massive gastro-intestinal hemorrhage without visible lesions as being splenic or liver disease, blood dyscrasia, etc. Apparently these hemorrhages are due to a widespread involvement of the entire gastro-intestinal tract.

We cannot feel that any conclusions are warranted on the basis of this one case, but we do feel that the importance of vitamin C in massive gastro-intestinal hemorrhage cannot be overlooked.

Toxemic patients usually have a sub-standard diet, and this with a period of several days of coma without adequate substitution of this vitamin complement could well precipitate avitaminosis and in a toxemic state determination of vitamin C blood levels should be important as a preventive measure.

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The rapid and enormous growth and diversification of modern industry in the last 50 years has been accompanied by a considerable increase in the number and types of industrial cancer, many cases of which have not been recognized. Although neither industrial management, labor organizations, legislative bodies nor the medical profession have heretofore fully appreciated the potential social and medical significance of this type of environmental cancer, their interest is now being aroused.

A higher index of suspicion and more thorough employment history extending over several decades would improve our diagnosis of these tumors. The individual's environment 10 years previously may hold the clue to the cause of certain tumors of the skin, urinary tract, respiratory system or bones.

Recognized and suspected occupational carcinogenic agents include organic chemicals such as beta-naphthylamine, benzidine, benzol, tar, pitch, asphalt, soot, lamp black, shale oil, paraffin oil, anthracene oil, creosote, lubricating and fuel oils, grease, estrogenic hormones, arsenicals, chromates, nickel carbonyl, asbestos, beryllium, and physical agents such as ultraviolet, alpha-, beta-, gamma- and roentgen rays. These substances, improperly controlled, may have carcinogenic action on the industrial producers, handlers or users or on the general public through buying or consuming products or by contact with industrial wastes discharged into the air, water or soil. The increased incidence of skin cancer in farmers and sailors from their frequent exposure to sunlight is recognized.

Statistical evidence shows that an excessive incidence of a certain type of cancer among members of a given occupational group suggests the existence of an environmental cancer. The rate of incidence among exposed individuals and the length of average latent period depend upon the potency of the carcinogen, duration and intensity of exposure and individual susceptibility. Occupational cancers occur chiefly in males because they have more frequent contacts with industrial carcinogens.

Clinically, a high rate of primary multiplicity is characteristic of occupational cancer. Occupational lesions such as arsenic or tar dermatitis, actinic dermatitis and radiation osteitis are precancerous warnings of industrial cancers to come.

Although industrial cancer is not a frequently recognized type of cancer, it represents a type of tumor which may increase in frequency and importance. Its astute recognition by the medical profession would be an important step in facilitating cancer prevention.

PRESIDENT'S PAGE

Dear Doctor:

There are two related organizations which I am sure deserve far more support than we are giving them. I refer to the Kansas Medical Assistants' Society and the Woman's Auxiliary to the Kansas Medical Society.

I believe that it is the privilege and duty of every doctor in the state to see that his assistants belong to the former organization. He should pay their dues into the society and he should see that they attend the annual meetings at his expense. The friendships made, the fellowship enjoyed, and the knowledge which is disseminated at these meetings will pay you both big dividends. Our assistants are the natural public relations department of the office. They are well organized in the larger centers but more membership and aid is needed from the smaller locations.

Our Woman's Auxiliary is the public relations department of our home and social lives. The national organization has accomplished wonders in the public relations field, working hand in hand with Whitaker and Baxter of the A.M.A. The same is true of our state organization, but at the county level many of them need our help and we need theirs. Many county societies are doing excellent work; many are unorganized; many are organized but are not effective. Let us acquaint them with our great national problems and with voluntary prepaid medical and hospital plans in order that they may be able to converse intelligently on these subjects at their clubs, ladies aid, or other places where women meet on a community level. They need not be public speakers, politicians, or doorbell ringers—just simply well informed, intelligent doctors' wives.

The committee appointments have been made for the year and are published in this issue of the Journal. We have arrived at these appointments after careful consideration, thought and deliberation, and they are based upon ability, willingness to work, specialties, geographical distribution and personalities. Any number of good men were omitted from committees because of other work in or for our Society. I refer to the members of the Council, State Board of Health, Blue Shield, Blue Cross, the Board of Registration and Examination, etc. They are already contributing to our organization, and to them and for their work we are sincerely grateful. It is our conviction that each committee has a definite function and it is your responsibility to perform that function to the best of your ability.

We hope to see you in San Francisco.

Sincerely,

F. R. Crozier M.D.

President.

EDITORIAL COMMENT

Editorial in Nine Words

"The 1948 infant mortality rate for the United States was the lowest on record according to figures released today by Federal Security Administrator, Oscar R. Ewing." (From FSA release dated March 27, 1950.)

Is this the system Mr. Ewing wants to change?

—*Journal of the Medical Society of New Jersey, May, 1950.*

Antihistaminic Drugs

Although not the first to discuss the failure of antihistaminic drugs, an article in the May 11 New England Journal of Medicine is probably the most comprehensive and conclusive dissertation on this subject to date. Six physicians from the Department of Preventive Medicine of the School of Medicine at Western Reserve University recorded two experiments in this field.

They explain in detail the elaborate control measures employed, the case histories that were taken before and during the onset of illness, the carefully planned distribution of a variety of antihistaminic substances as well as placebos, and the detailed critical analysis of two physicians who were unaware of the mechanics of the experiment. The first problem was studied in a group of families in Cleveland under normal conditions. The second, using volunteers from students at the medical school, dealt with inoculations of cold virus. The statistics in the first series presented 376 respiratory illnesses occurring in 203 persons. The second experiment consisted of illnesses among 31 medical students.

Although the authors carefully defined the different steps of each procedure, those are technicalities that may be obtained by reading the article. The summaries, differing considerably from numerous other reports, including some published by the Council on Pharmacy and Chemistry of the American Medical Association, are of primary importance to this editorial.

The authors were unable to find any beneficial effect from the use of antihistaminic products. The drugs did not alter the clinical picture, and even in patients with known allergies the duration of the illness was the same in treated and untreated individuals. There was no significant beneficial effect regardless of whether the dosage was considered adequate or inadequate, whether treatment began before or after symptoms of the cold were noticed. In one series 32 patients had two or more respiratory illnesses during the period of observation, at least one of which was treated and one or more was not treated. Again, it was impossible to detect a significant different between the duration of the treated and untreated illnesses.

Comparable results were obtained in the medical student volunteers. They were grouped to receive nasal secretions, sterile milk, the antihistaminic drug or the placebo. Equal numbers developed colds among those who had received 50 mg. doses of antihistaminic drugs four times a day prior to inoculation and among those who were given placebos. There was no appreciable difference in the duration of symptoms. Eight noted side reactions attributed to the drug but of these four had received placebos.

The authors conclude their article by saying, "The antihistaminic drugs have been evaluated by observation of their effect on naturally occurring respiratory infections and by determination of their influence on the occurrence and subsequent course of common colds developing after the experimental inoculation of volunteers. No beneficial prophylactic or therapeutic effect was demonstrated."

Frightened Men

Mr. Ewing, who is still Federal Security Administrator but who is not yet some of the other things he has expressed a desire to be, made a speech at Atlantic City before the International Ladies Garment Workers. The press quoted only a few of his remarks and they all had to do with the A.M.A. Just what special appeal a lawyer's private appraisal of the A.M.A. might have to the International Ladies Garment Workers is not instantly apparent, but what the speaker said adds some light to him as an adversary and as a man.

Mr. Ewing said the A.M.A. is made up of "fraidy-cats," that the organization is a "chapter of the league of frightened men" and that the by-laws of the A.M.A. "provide you cannot be a member in good standing unless you distrust the people of the United States."

Undoubtedly Mr. Ewing made other comments that were not quoted, but when a speaker discharges a volley like the above his ammunition is pretty well spent. His audience would not be expected to have any exceptional knowledge of the A.M.A., and if that was to be the topic of an address it appears that the integrity of the position occupied by the speaker should have brought forth something a little more enlightening than "fraidy-cat." Analyzing his comments might call forth many remarks, of which the following are the first that come to mind.

These "frightened men" have been afraid, desperately afraid, that the leadership in some branches of government lacks understanding of the problems

they are trying to adjust. Not only does their background leave them unprepared for the situation but their naive, petulant name-calling distinguishes them as trifling in the position destiny has given them. Doctors are a chapter of that growing league of frightened men, numbering now into the millions, who tremble before the whims of masters of their future.

Calling them "fraidy-cats" didn't exactly allay their distrust, so the only other purpose in the remark must have been the Federal Security Administrator's belief that this gem of oratorical genius would heighten the garment workers' respect for the speaker. Of course, Mr. Ewing might have underestimated the intelligence of his audience. He did that at least once in a radio interview and at least once in a public address—but then some persons have the ability to learn more readily than others.

Where he got the quotation from the A.M.A. by-laws is unknown. The 1949 edition of the constitution and by-laws has been examined without reward, nor could any flight of fancy give the remotest hint of such an interpretation to any part of the document. In fact the A.M.A. shows every evidence of its greater trust in the people of the United States than does Mr. Ewing.

The A.M.A. has faith in the people's ability to govern themselves and opposes a government by bureaucracy or dictatorship. The A.M.A. has confidence in the system of free enterprise. The A.M.A. believes that the people of the United States will work out their medical care problems on a voluntary basis. Mr. Ewing distrusts their ability in this regard and demands compulsory methods. And, finally, the A.M.A. has faith in the intelligence of the United Ladies Garment Workers and all others in the United States to understand a simple, logical explanation. If Mr. Ewing had similar faith in that segment of the people of the United States whom he addressed, he would have used a different approach.

Committees—1950-1951

Committee appointments for the coming year may be found on Page VI in this issue of the Journal. F. R. Croson, M.D., president, spent many hours in this difficult and important task, completing it early in the hope that committees may begin their meetings at once.

Many chairmen who have performed outstanding service have been altered for the sole reason that rotation of these positions provides an opportunity for more members to serve their Society. It is from committee activities that future leaders are developed, and this year many younger physicians have been assigned to committee membership.

Other major considerations in the selection of committee members were the personal interests of the members, their work on local levels, and overall geographical distribution. Certain committees are composed entirely of specialists and in the majority of those instances the physicians practicing that specialty selected their own chairman and members. This is the case of the committee on Anesthesiology, Conservation of Eyesight, Conservation of Hearing, and others.

As always, your president wishes that many others might have been selected for committee assignments but wants it to be known that the lists are not closed. He will welcome suggestions at any time and particularly those in which a member offers to serve. Every consideration will be given to such correspondence and if possible the request will be honored.

Committee activity is the basis for all Society progress. Every major project the Society has undertaken began at the committee level. It is hoped that the coming year finds many new fields of public service developed in the various committees. Your president pledges his cooperation and that of the executive office in such endeavors and hopes each committee will find this a stimulating and productive year.

Woman's Auxiliary Elects Officers

The Woman's Auxiliary to the Kansas Medical Society elected officers at its annual meeting held in Wichita. Mrs. John A. Billingsley, Kansas City, succeeded Mrs. Charles H. Miller, Parsons, as president. Other new officers are: president-elect, Mrs. M. A. Brawley, Frankfort; first vice president, Mrs. Barrett A. Nelson, Manhattan; second vice president, Mrs. Charles Underwood, Emporia; third vice president, Mrs. H. L. Collins, Beloit; recording secretary, Mrs. W. J. Biermann, Wichita; treasurer, Mrs. Richard O'Donnell, Ellsworth; corresponding secretary, Mrs. Lee H. Leger, Kansas City.

Committee chairmen are: Archives and History, Mrs. Ralph Combs, Leavenworth; Exhibits, Mrs. J. R. Campbell, Pratt; Legislation and Public Relations, Mrs. L. A. Donnell, Wichita; Today's Health, Mrs I. Joseph Waxse, Oswego; Program, Mrs. Marshall Hyde, Ottawa; Editorial, Mrs. E. R. Millis, Kansas City; Parliamentarian, Mrs. L. B. Spake, Kansas City; Nominations, Mrs. Charles H. Miller, Parsons; National Bulletin, Mrs. Orlin W. Longwood, Stafford; Resolutions, Mrs. C. T. Ralls, Winfield; Revisions, Mrs. E. C. Duncan, Fredonia; Finance, Mrs. J. D. Colt, Sr., Manhattan; Nurse Recruitment, Mrs L. S. Nelson, Jr., Salina.

91st Annual Session, Kansas Medical Society

The 91st annual session of the Kansas Medical Society was held at Wichita, May 15-18, 1950. Registrations were as follows: members of the Kansas Medical Society, 649; guest physicians, 62; other guests (interns, residents, laboratory technicians, students, etc.), 238; members of the Woman's Auxiliary to the Kansas Medical Society, 244; members of the Kansas Medical Assistants' Society, 300; total, 1,493.

The usual events for sportsmen took place on the first day of the meeting, climaxed with a banquet that evening at the Hotel Broadview. Scientific sessions were held all through the second, third and fourth days, with outstanding guest speakers from all sections of the country speaking on a variety of topics. Scientific sessions for eye, ear, nose and throat specialists ran concurrently on Tuesday and Wednesday.

A large number of commercial and scientific exhibits attracted all who were present. A committee composed of guest speakers judged the scientific exhibits and awarded honors as follows: first, Plastic Surgery, Dr. A. E. Hiebert and Dr. H. W. Brooks, Wichita; second, X-ray Display, St. Francis Hospital X-ray Department, Wichita; third, X-rays of Tuberculosis Patients, State Sanatorium for Tuberculosis, Norton.

The big social event of the year, the annual banquet, was held May 17 at the New Moon. Mr. Leonard E. Read of New York pleased the large crowd in attendance with his address, "Selling Liberty—A Public Relations Project for Every American." Dr. F. R. Croson, incoming president, presented an engraved past president's key to Dr. Haddon Peck. The evening was concluded with a dance.

The two business meetings of the annual session are reported in detail elsewhere in this issue.

Officers for 1950-1951

At the close of the session Dr. F. R. Croson, Clay Center, took office as president. He will be assisted during the year by the following officers: president-elect, Dr. C. H. Benage, Pittsburg; first vice president, Dr. W. F. Bernstorf, Winfield; second vice president, Dr. J. V. Van Cleve, Wichita; constitutional secretary, Dr. Dale D. Vermillion, Goodland; treasurer, Dr. J. L. Lattimore, Topeka; delegate to the American Medical Association, 1951-1953, Dr. L. S. Nelson, Salina; alternate, Dr. George Gsell, Wichita.

Councilors for 1950-1951

New councilors were elected for Districts 4, 5, 9, and 11. The complete list of those now serving, with the date of expiration of their terms, is as follows:

1. Dr. W. L. Anderson, Atchison, 1951
2. Dr. A. J. Rettenmaier, Kansas City, 1951
3. Dr. J. G. Hughbanks, Independence, 1952
4. Dr. F. C. Taggart, Topeka, 1953
5. Dr. L. J. Beyer, Lyons, 1953
6. Dr. J. V. Van Cleve, Wichita, 1952
7. Dr. H. A. Hope, Hunter, 1951
8. Dr. W. A. Smiley, Junction City, 1951
9. Dr. M. J. Renner, Goodland, 1953
10. Dr. M. C. Eddy, Hays, 1952
11. Dr. C. V. Black, Pratt, 1953
12. Dr. R. G. Klein, Dodge City, 1952.

Nominating Committee

In accordance with a new amendment to the Constitution and By-Laws, a Nominating Committee was elected at the second meeting of the House of Delegates. Those named to serve on the committee are: Dr. J. L. Lattimore, Topeka, chairman; Dr. W. P. Callahan, Sr., Wichita; Dr. O. W. Davidson, Kansas City; Dr. W. M. Mills, Topeka; Dr. L. S. Nelson, Salina.

Official Proceedings, First Session, House of Delegates May 16, 1950

The first session of the House of Delegates, having enough present for a quorum, summarized much of the routine business such as committee reports on the basis that this had been published in the Journal. The reports of the editor of the Journal and of the executive secretary are carried elsewhere in this issue.

The secretary's report indicated a total membership of 1,661, an increase of 38 over the previous year.

Under new business a number of resolutions were introduced which will be recorded under the second meeting of the House of Delegates, where they were acted upon.

A memorial to the late Dr. J. F. Hassig, printed elsewhere in the Journal, was read.

Mr. Blake Williamson, a member of the Board of Social Welfare, discussed the indigent medical care program of the state. The House directed the president to appoint a committee to work with the Kansas State Board of Social Welfare.

A resolution conferring upon Dr. J. L. Lattimore the first distinguished service award of the Society was read. This is printed elsewhere in the Journal.

The treasurer's report consisted of a summary of the recent audits of the Society and Journal funds. The House approved previous Council action of giving $10,000 to the Kansas Medical Student Loan Fund.

There being no further business, the meeting adjourned.

Official Proceedings, Second Session, House of Delegates May 18, 1950

A quorum was declared present and immediately affirmative action was taken on the following resolutions:

Resolution Number 1

WHEREAS: The House of Delegates of the American Medical Association, meeting in Atlantic City, New Jersey, in June, 1949, adopted the report of the Committee on Hospitals and the Practice of Medicine (Hess Committee) as amended by the Reference Committee on the Report of the Board of Trustees, and

WHEREAS: The House of Delegates of the American Medical Association meeting in Washington, D. C., December, 1949, re-referred the above report to the Committee on Hospitals and the Practice of Medicine (Hess Committee) for reconsideration and possible amendment, and

WHEREAS: The report contains recommendations and modes of procedure calculated to eliminate differences between doctors of medicine and hospitals, and/or medical schools, which are contrary to the public welfare; now therefore be it

RESOLVED: That the Kansas Radiological Society meeting in Wichita, on May 17, 1950, record its support of the principles and procedures set forth in the Hess Report, and be it further

RESOLVED: That this action of the Kansas Radiological Society be transmitted at once to the Kansas Medical Society requesting the Kansas Medical Society to support the Kansas Radiological Society in their position as favoring the Hess Report, and that the delegates of the Kansas Medical Society to the House of Delegates of the American Medical Association meeting in San Francisco in June, 1950, be instructed to lend their best efforts to the readoption of the report of the Committee on Hospitals and the Practice of Medicine by the House of Delegates of the American Medical Association in a form that will enforce the Principles of Medical Ethics of the American Medical Association; will be consistent with law, both state and federal; and will protect patients to whose welfare the medical profession is dedicated.

Resolution Number 2

WHEREAS: Chapter III, Article VI, Section 6, of the recently revised Principles of Ethics of the American Medical Association reads:

Purveyal of Medical Service

Section 6.—A physician should not dispose of his professional attainments or services to any hospital, lay body, organization, group or individual, by whatever name called, or however organized, under terms or conditions which permit exploitation of the services of the physician for the financial profit of the agency concerned. Such a procedure is beneath the dignity of professional practice and is harmful alike to the profession of medicine and the welfare of the people.

WHEREAS: The committee known as the Hess Committee reported to the American Medical Association House of Delegates in Atlantic City in June, 1949, in detail, regarding the practice of medicine by hospitals.

WHEREAS: The Hess report in one paragraph stated in explanation as follows: "Therefore, hospitals and medical schools cannot charge patients fees for medical services rendered by physicians even though the physicians are full time employees of an individual or institution."

WHEREAS: The Hess report was adopted by the American Medical Association House of Delegates and the Trustees of the American Medical Association were instructed to enforce the principles and obligations involved.

WHEREAS: The House of Delegates of the American Medical Association in Washington in December, 1949, reaffirmed its belief in and confirmed the principles stated in the Hess report and directed that action by the Trustees be deferred only until all legal requirements were met in order to insure that all action taken shall comply with the law.

WHEREAS: The Trustees of the American Medical Association are to report to the House of Delegates in June, 1950, regarding this matter and the Hess Committee is to report its further study.

Therefore, BE IT RESOLVED: The House of Delegates of the Kansas Medical Society confirms the action of the American Medical Association House of Delegates regarding the reaffirmation of the principles of the so-called Hess report.

BE IT FURTHER RESOLVED: The House of Delegates of the Kansas Medical Society requests the American Medical Association House of Delegates to expedite action and implement methods that WILL enforce the Section 6, Article VI, Chapter III of the Principles of Medical Ethics without delay.

BE IT FURTHER RESOLVED: Our delegates to the American Medical Association are hereby instructed regarding these desires and requested to work for their fulfillment.

Resolution Number 3

BE IT FURTHER RESOLVED: That the House of Delegates at the 91st annual meeting of the Kansas Medical Society does hereby reaffirm the approval and active sponsorship by the Kansas Medical Society of voluntary prepaid medical care programs with special endorsement of Kansas Physicians' Service now known as Blue Shield, and

BE IT FURTHER RESOLVED: That the delegates to the American Medical Association be spe-

cifically instructed to make known the position of the Kansas Medical Society in relation to voluntary prepaid medical care programs and its special endorsement of Blue Shield and to urge that a similar resolution be adopted by the American Medical Association.

The following amendments to the Constitution and By-Laws of the Kansas Medical Society were approved:

Amendments to the Constitution

Article I. Name of this Society. Add—hereinafter called the Society.

Article IV. Composition of this Society. Section 2 shall be amended to read:

Section 2. The officers of this Society shall be a president, a president-elect, a first vice president, a second vice president, a secretary and a treasurer. All officers shall be elected by the House of Delegates of this Society for terms of office as are hereinafter provided.

Section 5 shall be added to read:

Section 5. The delegates to the American Medical Association shall be those members elected to represent this Society in the House of Delegates of the American Medical Association.

Old Section 5, now 6, shall be amended to read:

Section 6. The members of this Society shall be the active members in good standing of the component societies, military service connected members, members on leave of absence, the members in good standing of other societies approved by the Council and the honorary members who are elected as provided by the By-Laws.

Old Section 6, now 7, shall be amended to read:

Section 7. Guests properly registered and personally vouched for by a member may be admitted to the scientific work of the annual or called sessions.

Article VI. Council. Section 1 shall be amended to read:

Section 1. The Council shall consist of one councilor from each councilor district, and in addition the officers of the Society and the delegates to the American Medical Association.

Section 4 now reads: The president shall serve as the presiding officer of the Council. This section shall be deleted.

Article VII. House of Delegates. Section 3 now reads: The president shall serve as the presiding officer of the House of Delegates. This section shall be deleted.

Article VIII. District Societies. Now reads: The House of Delegates and the Council may provide for the organization of such district societies as will promote the best interests of the medical profession: provided, that each district society shall be composed exclusively of members of component societies within that councilor district. This article shall be deleted and subsequent articles renumbered consecutively.

Former Article IX now Article VIII. Annual Sessions. Section 1 shall be amended to read:

Section 1. This Society shall hold annual sessions which shall be open to all registered members and guests.

Former Article X now becoming Article IX. Terms of Office and Elections. Section 1. The clause "and shall continue until the close of the following annual session" following the definition of terms of office, shall be deleted as superfluous.

Former Article X now Article IX. Section 2 shall be amended to read:

Section 2. The officers shall be elected by the House of Delegates at the last meeting of that body in each annual session and in the manner provided by the By-Laws.

Section 3 shall be amended to read:

Section 3. The elections to fill expired regular terms or unexpired terms of councilors shall likewise be held at the last meeting of the House of Delegates of each annual session.

Former Article XII now Article XI. Section 2 shall be amended to read:

Section 2. The Council shall elect one of these members as editor of the Journal of the Kansas Medical Society and as chairman of the Editorial Board each year.

Former Article XIII now Article XII shall be amended to read:

Funds of this Society shall be raised by an equal annual per capita assessment collected by each component society.

Former Article XV now Article XIV. The middle of Section 2 shall be amended by the deletion of the words "diligent and careful" and substituting therefore the word "proper."

Amendments to the By-Laws

Chapter I. Membership. Section 1 shall be amended to read:

Section 1. The name of a physician appearing on the properly certified roster of members of a component society which has paid the full amount of his annual assessment, shall be prima facie evidence of membership in this Society.

Chapter II. Assessments. Shall be amended to read:

Section 1. The amount of the annual assessment for the Kansas Medical Society only shall be not more than etc., and by the addition of Section 2.

Section 2. Assessments shall include subscription to the Journal of the Kansas Medical Society at a

rate determined by the Editorial Board with the approval of the Council.

Chapter IV. General Meetings and Sections. Section 3 shall be amended by the elimination of the two words "or commissions."

Chapter V. House of Delegates. Section 3 shall be amended to read:

Section 3. Each component society shall elect to the House of Delegates each year one duly qualified delegate and one alternate for every 20 members or major fraction thereof: Provided, that each component society which has made its annual report and paid its assessments as provided in this Constitution and By-Laws shall be entitled to at least one duly qualified delegate. It shall be the duty of the secretary of each component society to send to the executive secretary of this Society a list of delegates and alternates of that society at least 30 days prior to each annual session.

Section 5 shall be amended to read:

Section 5. In the event that an elected delegate shall find it impossible to attend an annual or special session of the House of Delegates, his alternate shall qualify himself to the Committee on Credentials to serve instead of the elected delegate. In the event a particular component society is not represented by either delegate or alternate at a meeting of the House of Delegates, that body by majority vote may elect a member of that component society to serve as a delegate for that meeting.

Section 9 which details order of business of meetings of the House of Delegates shall be amended in the portion specifying the election of delegate-elect to the American Medical Association by the inclusion of an alternate for that position, making that portion read "delegate-elect and alternate to the American Medical Association."

Section 17. That portion which now reads: Alternate or alternates shall be elected each year for two-year terms, who may be certified to substitute for any delegate unable to attend an annual or interim session during his term of office, shall be deleted and a new Section 18 inserted to read:

Section 18. An alternate to the delegate-elect shall be elected each year who shall be certified to substitute for that delegate in case of removal, resignation, or inability to attend an annual or interim session during his term of office.

Present Section 18 then becomes Section 19.

Chapter VI. Election of Officers. A new Section 1 shall be inserted and present Sections 1, 2 and 3 shall be renumbered so as to be Sections 2, 3 and 4 respectively.

Section 1. A Nominating Committee of five shall be selected by ballot from all living past-presidents at the last meeting of the House of Delegates of each annual session, the committee to consist of five receiving the greatest number of votes and in case of tie vote on the fifth member the committee will consist of six instead of five. The past-president receiving the greatest number of votes shall be the chairman. No past-president may serve on more than two consecutive annual committees; the committee shall meet not later than 90 days prior to the next annual session and present for publication in the Journal a list of two or more candidates for each elective office.

Section 2, becoming Section 3, shall be amended to read:

Section 3. All elections of officers shall be by secret ballot unless a single candidate is nominated for an office, whereupon the vote may be taken viva voce. If upon any ballot on more than two candidates no nominee shall receive a majority, the name receiving the smallest number of votes shall be dropped and the balloting continue in that manner until a majority is obtained. Nominations for all offices may be made from the floor in addition to the recommendations of a nominating committee.

Chapter VIII, Section 4 shall be amended to read:

Section 4. The Council is authorized to organize and issue charters to single or multi-county component societies.

Present Section 5 which provides for district societies is hereby deleted. Section 6 is retained, Section 7 becomes Section 5 and Sections 8, 9 and 10 become Sections 7, 8 and 9 respectively.

Chapter VIII. Present Section 11 now becoming Section 10 shall be amended to read:

Section 10. In the event of a death, resignation, or removal in the office of second vice president, secretary, treasurer, or a councilor, the Council shall elect a successor to fill the vacancy. At the next annual meeting of the House of Delegates a caucus of delegates from the councilor district affected shall select a councilor to complete the regular three-year term. When such replacement term shall be for two or more years, the member selected shall be eligible to re-election for only one regular term.

Chapter VIII. Sections 12 and 13 becoming Sections 11 and 12 shall be condensed to form a new Section 11 to read:

Section 11. The Council shall meet at the conclusion of each annual session and at intervals during the year at the call of the president or on petition of five members of the Council. Adequate notice shall be given as to time and place.

Present Section 14 becomes Section 12. It shall be amended to read:

Section 12. Eleven members of the Council shall constitute a quorum.

Section 17 becoming Section 15 delineates the

duties of councilors. This shall be amended by the addition of the following paragraph:

Each councilor shall be designated by the president as council representative to certain committees. He shall attend those committee meetings, reporting activities to the Council and when necessary secure Council approval of work undertaken or proposed.

Chapter XI. Committees. Section 1. Committees are alphabetically arranged and numbered consecutively. Present Committee on Insurance and Industrial Medicine, No. 29, shall be changed to the Committee on Industrial Medicine and becomes No. 21 and consecutive numbering of following committees is changed.

Chapter XI. Present Section 22. Committee on Medical Economics. Wording is amended to conform to present committee assignments as follows:

Section 22. The Committee on Medical Economics shall consist of at least five members. The duty of this committee shall be to investigate matters affecting the status of medical economics including indigent care, border line income conditions for medical care, accident, health and hospital insurance to individuals or groups and Social Security problems, etc. They shall advise the officers and the Council from time to time and the House of Delegates annually as to their findings and recommendations for means by which this Society as a whole, the component societies as units and the members as individuals may improve the economic status of the public and the medical profession. At least two members of this committee, one of whom is the retiring chairman, shall have served on the retiring committee.

Chapter XI. Present Section 29 to become Section 21 formerly known as the Committee on Insurance and Industrial Medicine shall be amended to read:

Section 21. The Committee on Industrial Medicine shall be composed of at least five members. It shall be the duty of this committee to study and become intimately acquainted with every movement agitated, proposed or attempted to enact or be enacted, that has for its object either secret or avowed the providing of industrial or compensation health, and/or accident medical insurance for public service or commercial employees of persons, companies or corporations either collectively or singly which affects the economic or financial status of the members of this Society, to represent this Society in efforts to secure greater cooperation and greater mutual understanding between medical men and employers of labor or their insurance carriers concerning the rendition of professional services in industrial cases and the amount and character of compensation therefore; to devise and advise whenever intelligent action on the part of this Society is desirable upon these questions and to report in writing its findings, recommendations and information obtained to this Society or to the House of Delegates. A portion of its members and whenever practical the retiring chairman, shall be included in its membership.

Chapter XII. Section 14 now reads: The secretary of each component society shall forward the assessment of that society, together with its roster of officers, members and list of non-affiliated physicians to the executive secretary on or before the first day of February of each year. Section 14 shall be amended by the addition of the following:

As a personal convenience to members desiring American Medical Association membership, the secretary of each component society may transmit through the central office of this Society individual checks or funds for membership assessments of that organization.

Chapter XI. Section 1. The Blue Shield Relations Committee shall be added to the list of standing committees and placed in the regular alphabetical list of committees.

Chapter XI to be Section 9. The Blue Shield Relations Committee shall consist of a chairman and not less than one member practicing or residing in each of the Councilor Districts. It shall be the duty of this committee to work closely with the Blue Shield organization in all matters pertaining to professional relations of Society members participating and shall report the results of its work from time to time to the Council and annually to the House of Delegates. A portion of this committee shall have served on the retiring committee.

The Chairman of the Constitution and By-Laws committee together with the executive secretary shall be authorized to make necessary changes of wording and structural changes not interfering with the intent or meaning before reprinting the Constitution and By-Laws.

The meeting was concluded with the election of officers, listed elsewhere in this issue, and the announcement of the resignation of Dr. H. H. Jones, Sr., Winfield, first vice president, because of ill health.

President's Address

It seems only a short time since I talked to you about the year ahead. One year has passed since that time. The time has seemed quite short—too brief to accomplish so many things we had hoped to accomplish. Someone asked me how I was getting along as president of the Kansas Medical Society. I told them that, by some standards, I apparently was not doing so well. An entire year has passed and my wife still does not have a deep freeze.

The Kansas Medical Society has always been progressive. The last few years, it seems, have become more so. Your activities have gained national recognition. We have successful manufacturers—we might use General Motors as an example. They have seen to the distribution of their products in each town and village all over this vast country. I fear that we have not done quite so well as a profession. Medicine has made unpredictable advances during the last generation. We have much to offer the people, both in the field of preventive medicine and in curative medicine. We have taken definite and effective steps to increase the number of our distributors by enlarging the capacity of our medical schools. We are training many of these distributors to become general practitioners. This is our means of extending medical care to all of the people of our state—the rural people as well as the urban population.

The need for more doctors in rural areas has become a national problem. We have a definite workable plan with which to solve that problem. We are producing more doctors. We have sold small towns and villages on the idea that they must do their part in obtaining medical care. They must provide the equipment necessary for a doctor to practice modern medicine. We have emphasized the necessity for the small village to become a more attractive place in which to live. I know of one small town which has paved part of its streets, graveled the remainder of them, and built a modern office with x-ray equipment. The object of this activity is to obtain a resident doctor. Their building program is not completed, they are not quite ready for a doctor. However, I am sure that they will have a progressive young doctor locating in their town soon.

We have developed, over the years, a postgraduate system which is going to insure the rural practitioner that his medical education will remain modern. The vision of a superlative medical school within our state is being fulfilled in a manner which should be pleasing to everyone. During the last year, our standing committees have been very active. They have done a tremendous amount of work. I would like to make some personal references at this point, but I would not know where to stop. So many of you have been very generous with your time and have accomplished much. Our Mid-Winter Cancer Conference held in Wichita was well attended. We have many to thank for the success of this meeting. I think it is only proper that we particularly mention Dr. Howard Snyder and Dr. Orville Clark. A society for the study of heart disease was organized. This is good news for the heart patients.

In the field of mental health our Society has been very active. Our Mental Health Committee has put in many long hours and has had many meetings during the year. Particularly, I wish to express my personal appreciation of their effective cooperation. I think it only proper that we, as a Society, thank the Menninger group for the contribution they have made to mental health, not only in Kansas but on a national level.

Your Society has been effective in establishing a rather close contact between the A.M.A. and the National Farm Bureau Federation. As one interested in seeing a private enterprise preserved, I wish to thank Mr. Allan B. Kline for his activities in that field. It is not our province to enter into the activities of other organizations, but we cannot help being concerned about the Brannan Plan—a plan in the field of agriculture which might result in complete socialization of the entire country as rapidly and effectively as socialized medicine might.

It is very pleasing to note that as a profession we are entering into our community activities as we should. More than 60 of us belong to the State Chamber of Commerce. A year ago there were only 10 or 12 of us who belonged to that organization. This is as it should be, particularly if we expect the businessmen to be interested in our problems. I have enumerated only a few of our activities.

The hospital program for our state is progressing very rapidly. In some parts of the state we unquestionably have too many hospitals beds. We feel that they are going to be a burden to the people to support. However, that is better than having some locations existing without any hospital at all as they did 20 years ago.

The practice of medicine today, as compared to 40 or 50 years ago, must be accepted with the realization of a tremendous responsibility. Many practitioners of a generation ago were equipped only with a stethoscope, fever thermometer, a few drugs, and a meager supply of instruments, usually a pair of obstetrical forceps. They were without hospitals, without antiseptics, without properly sterilized dressings, with only a meager knowledge of surgical technics, and with relatively few effective drugs as compared with modern standards. It was not their responsibility to decide concerning radical surgical procedures.

Every doctor should make it a definite planned program to make a worthwhile contribution to his profession, to cooperate with his fellow practitioners. Few things are accomplished by accident. Intelligent planning, planning backed by thinking, produces practical results.

The problems of medicine are my problem and your problem. Democracy means personal responsibility, often unselfish sacrifice of secondary personal

matter to preserve personal freedom. Seldom do we fully appreciate what it means. Once lost, the recovery is measured not in weeks or months or years but in decades.

Report of Journal Editor

Your Journal Board, composed of Lucien R. Pyle, editor, Orville R. Clark, Dwight Lawson, John W. Cavanaugh, Richard Greer and the associate editors, Donald P. Trees and Glen R. Shepherd, wishes to submit the following report of the interesting activities of the Journal of the Kansas Medical Society for the past year.

The Board wishes to thank the contributors to the scientific section of the Journal for the 76 scientific articles and case reports that have been published and the 20 or more articles that are now being reviewed by the Board. In the main, these articles have been of definite scientific value. We wish to urge those authors to whom we have returned articles for editing, to work over the material and submit it to the Board again. We do not feel that it is our job to edit, rewrite, rearrange and generally overhaul the papers that are submitted to us, because, after all, we may not be able to interpret the author's point of view. You must remember that the cases that you are reporting may be very clear in your own minds because the many little details that you will not get down on paper will make it so. But the absence of those details will not make your premise clear to a reader not well acquainted with that particular case. We are sorry to have returned some good papers to the authors with the suggestion that they be submitted to more technical journals. We have felt that those papers were without the scope of our Journal and the majority of our readers. Please remember that we can make the Journal only as valuable as the observations, conclusions and organization of the scientific material by the varying authors permit. For, after all, that is the reason that we publish the Journal.

In August of 1949 the Journal published the first annual Cancer Supplement. The material for this supplement was obtained from the First Mid-West Cancer Conference held in Wichita in January, 1949. The Second Annual Cancer Supplement will be distributed with the August, 1950, issue of the Journal. We are deeply indebted to the Kansas Division of the American Cancer Society for this fine scientific material and for their financial assistance in publishing it.

During the past year, at the suggestion of your Board, Miss Farrell prepared and sent out a questionnaire to all of the members of the Kansas Medical Society. It was our thought that this was the best method to obtain information as to what our readers expected of the Journal, what we might add, and what we might delete. We were pleasantly surprised to obtain 467 replies. We have tabulated and analyzed the returns and wherever practical or requested by a sufficient number of the membership, we have attempted to follow the suggestions.

After approval from the Council, the Board has sent complimentary copies of the Journal to the junior and senior students of the University of Kansas School of Medicine. The 1949 graduates of the School of Medicine are receiving copies of the Journal as a gift of the Kansas Medical Society. It was our opinion that this small gesture would be of inestimable value in the future of the rural health program in Kansas.

The Board regrets the resignation of the two associate editors, James B. Weaver and C. A. Hellwig, during the past year. We appreciate their very fine services to the Journal. The Council has appointed Donald P. Trees and Glen R. Shepherd to fill the vacancies. Dr. Shepherd was entirely responsible for the very fine University of Kansas School of Medicine issue in March.

Miss Pauline Farrell, our managing editor, has been ever faithful to our aims and mindful of our needs. In military lingo, hers has been a job "well done."

Oliver Ebel, whose title on the mast is business manager, has been the producer of the section on socialized medicine as well as more than his share of the editorials. Even though, as he says, this is only a part of his job as secretary of the Kansas Medical Society, your Board takes this one annual privilege of publicly expressing to him its appreciation.

In the analysis of the questionnaire, we were indeed gratified to know that so many members of our Society read the advertisements in the Journal and were pleased to learn that they patronized our advertisers whenever practical. The advertisers make the Journal possible.

Although the official audit of the finances of the Journal is not yet available, the income for the Journal for last year was approximately $16,000 and the expenditures approximately $17,500, with an operating loss of about $1,500.

As editor of the Journal, I want to thank each member of the Editorial Board, Miss Farrell, Mr. Ebel, and the members of the Council for the fine services and wise counsel that they have rendered in behalf of the Journal.

Secretary's Report

It is now five years after the close of the war. Those hundreds of Kansas physicians who volunteered to serve with the armed forces are back and our Society is functioning at a normal level again. Perhaps this might be an appropriate time for review and to spend a moment in looking ahead. It

will be brief, touching only points that serve as examples of the direction in which the Society is going and will not delay the progress of this meeting. It will be an analysis of what your Society is trying to do. This is a problem in navigation, if you please. You have a selected objective, in fact a series of objectives in mind. Now, would you stop to consider if your current direction is proper for reaching these goals.

First a word about the objectives. They are reasonably well defined and can be disposed of in a moment. As physicians you want to render the finest possible medical care to the people of this state, and you want a uniformly high standard of quality. As individuals you want adequate facilities to work with, the respect of your colleagues and some time for your family and recreational activities. As citizens you want to preserve free enterprise and democracy in the spirit of those generations that made America. Perhaps there are more objectives but these will go a long way toward making the Kansas Medical Society the public service organization you want it to be.

Now, how are we progressing? What are we doing to achieve these objectives? Is our navigation accurate?

Item one is in two parts, the first of which concerns the type of care you are giving the people. If you need evidence on this subject, you have only to turn to vital statistics records of Kansas, to the lengthening life span, to the reduced average hospital stay. That speaks with an eloquence that even Oscar Ewing with his millions for propaganda cannot shout out of people's minds.

The second section of part one dealing with a uniform high standard of quality is not so easy to answer. Here we face an internal and external problem. Internally we still have physicians who do not always give each patient the benefit of the best that medical science has to offer. Each time this happens, whether the problem is scientific, economic or sociological, the entire profession pays a huge penalty because the misdeed is charged to the public relations account of every physician in the state.

The progress report on this category is not entirely optimistic, although machinery for making it work is available. We have a well established graduate education program at the medical school and in our circuit courses. The state meeting brings outstanding specialists to our door and the county society meetings provide a continuing education. Therefore, everyone has the opportunity to keep in touch with scientific advancement if he chooses to.

There are also other factors at work. The Kansas Plan has brought many physicians into the state and into rural areas so the natural consequences resulting from competition should provide a beneficial result to the public, but this works best if friendly cooperation exists. And then there are the grievance committees that can work public relations miracles if thoughtfully and seriously conducted. Much should be said about each of these factors, but my promise to Dr. Peck that this must be brief prohibits elaboration. I wish to make only one comment on grievance committees.

I sincerely hope this House of Delegates will stimulate the organization of grievance committees in all societies. Personally, I dislike the name because they deal more in interpretation than in punishment, more in explanation than in complaint, more in cooperation than in segregation. May I cite for your observation the experiment currently being tried by the Wyandotte County Society—placing lay persons, the purchaser of your commodity, on this committee together with doctors.

That is the machinery, but in my humble opinion it must be used more effectively. Believe me, this is not intended to imply that the problems are widespread. They are not. Kansas is remarkably fortunate in the idealism displayed by its doctors. In fact, I believe you could challenge any state on that basis without fear of embarrassment. However, the problem exists. Again, we are speaking about uniformly high standards of quality, and if we choose to set our course toward achieving that objective we must find a means of enforcing the principles in which we believe. The machinery is here; we need only the will to put it in motion to answer the most serious charge that the public makes against you.

So much for the internal problem. Perhaps it could be discussed in detail by your Council and at county society meetings. This problem of a uniformly high standard of quality also has an external aspect. The tight emotional appeal that goes with medical care and the elusive, often subjective, nature of your work provides a mecca for charlatans and quacks. Their presence today is nothing new in the history of medicine; nor is the public acceptance of such fakery anything that the world has not witnessed before. In facing this problem you have been magnificent and practically alone. You charted this course long ago and to this day have defended the integrity of your position without compromise or defeat. Here the course is clear and the direction in which you are going a sure one. You have said in effect that the requirements for the practice of medicine and surgery include graduation from a Grade A school. Any school meeting those qualifications may present its graduates (if they can meet requirements of citizenship, etc.) for examination for a Kansas license. It makes no difference by what

symbol he chooses to identify himself, that doctor has completed an education comparable to your own. Until that has been accomplished, his cannot be the rights given to you, for there shall be in this state one high standard of medical care. This standard shall be available to all who wish to comply with its regulations, nor will the public be confused on the issue, whatever its sentimental approach, as long as the integrity of our position is maintained.

Your course relative to part two, dealing with adequate facilities, has also been charted. Hospitals are being built in rural areas, additional doctors are coming into small communities, and specialists fully qualified to cope with virtually any problem may be found in most general sections of the state. Our Kansas Plan has worked. There are still communities looking for medical care, there are still communities wanting to build hospitals and health centers, but the overall picture is good. We will continue to work toward the goal that you have charted and your executive office will cooperate as we have in the past with the medical school and the Kansas State Board of Health in trying to find physicians for all communities that need them.

However, there is a problem that is already present which will make itself acutely felt in the near future. That is the over-building of hospitals. You of all people need not be reminded of the cost of hospital operation, the problems of staff regulation, etc., but somehow the public must be acquainted with this situation. Many communities believe that if they build a hospital they will get a doctor. You know that isn't any more the complete story than to say your patient is ill if he has a temperature. Reduction in hospital stay, transportation, good roads, new biological substances, all enter this picture and a thousand other factors besides. Federal grants have helped many communities but this small financial inducement is no panacea and can bring the community a tangible headache to replace the vague feeling of longing it experienced before.

Perhaps this is not entirely our problem. Whether yes or no, and I believe the public could make a case against us, it does give us an opportunity to be of service, the service in this instance being a full explanation of hospital benefits and liabilities—a clear report for the public to understand. Then, along with this, we must also explain to the physician that he might travel a few miles to a good hospital in preference to having a struggling inadequate facility at his doorstep.

Point three, dealing with free enterprise, could be the subject of a book. You have made marvelous progress in this direction during the past five years, and in the future you will accelerate the tempo of these activities. You have made your beliefs known to the public and have obtained support from individuals in all walks of life. You have enlarged the scope of your activities beyond the battle on socialized medicine to include all phases of living. You have united with other professions and industry and labor to challenge further infringements of your liberties on the part of government.

But you have gone even farther than that. Perhaps this can best be described by summarizing a paper Dr. Peck gave last winter before the A.M.A. conference on public relations. His topic was the Kansas Plan. What he said was that we are interested in providing good medical care for all Kansas communities—yes—but the Kansas Plan is based on a desire to make all Kansas communities better places in which to live. This means getting better schools and libraries and living facilities. It unites the efforts of the chamber of commerce with the church, the housewife and the waitress in the cafe, the banker and his farm neighbor, the doctor and the hardware merchant. It embodies projects of school lunches and lights for Main Street, sanitation and the high school operetta, the church ice cream social and the 4-H Club.

In that concept the doctor becomes a part of every phase of community living—a vital force in raising the self respect of a city—and, incidentally, an exponent of public relations in its highest tradition. Your achievements on this plane are a matter of record, a noble record that will endure for a long time to come. We in your executive office again pledge to you our continued effort to serve your wishes and in a program of this magnitude that task becomes increasingly a challenge to us and your example an inspiration.

In Memoriam
Dr. J. F. Hassig

The old story of the Doctor John Goodfellow "Office Upstairs" has a particular significance for this occasion.

The friends, neighbors and patients he so unselfishly served and counseled through all the years of his practice marked his final resting place with his old weather beaten sign which read, "Doctor John Goodfellow, Office Upstairs."

Doctor John Frank Hassig was truly a good fellow. His life was a tribute worthy of an office upstairs. Throughout his life he reflected exemplary ideals and characteristics which did and always will inspire others to get upstairs.

His kindly counseling and friendly touch were always within the reach of everyone.

His life spanned the era of the family doctor who knew the domestic, financial, physical and moral problems of everyone along his route. He was never too busy to give heed to their welfare, rebuke them

for their shortcomings and inspire them in their worthy adventures.

Humility balanced the reverence of some and the awe of others. His wisdom was available to grandparents and their grandchildren alike.

It was natural for people to like him. He liked people. His interests were not confined to his patient's disease. He always knew something about the person who brought in the disease.

He always knew something good about everyone. He had no time to condemn his fellow men. Those who condemned themselves learned that he had patience like Job and wisdom like Solomon.

His acquaintances spanned the nation. He could converse intelligently with the medical student or the medical patriarch. He was Uncle Frank to all who knew him. Medicine was his forte, but he never lost contact with the needs of his fellow men.

He was a rugged advocate of justice for all. He had the courage to express his convictions about any issue that would reflect honor to his profession and benefit to the people it served.

His devotion was to others. He constantly made personal sacrifices in their behalf. He withstood rebuke nobly and successfully rebuffed enterprising agents of chicanery.

Even death was a tribute to Uncle Frank. It came at the end of a long life, full of good deeds, as a call from above saying, "You have fought a good fight, you have finished your course, come therefore to your office upstairs."

It was a fitting tribute that his friends and colleagues paid him on his departure. They saw him, as it were, boarding the plane that bore him out into the great beyond. They watched with mingled feelings of pride and regret as the plane diminished to a mere speck and disappeared beyond the horizon.

They could visualize perhaps the expansion of that speck as it approached the other port and the crescendo of applause by former colleagues, patients, neighbors and the members of his family who were waiting at the new office he had built upstairs.

First Distinguished Service Award
Dr. J. L. Lattimore

Inspired leadership in the Kansas Medical Society has achieved unity in the profession, high ethical standards of medical practice, and broad public service toward the end that the people of this state might be assured of the highest quality of care.

Many medical and lay persons have contributed toward the achievement of this very practical idealism, but without detracting from the gratitude deserving to all others, the Sedgwick County Medical Society begs leave to pay tribute to an active member of the Kansas Medical Society and cites but a few of the contributions of this man to support an unusual but wholly appropriate action.

It has been the privilege of a few to serve on committees, to fewer still has been given the honor of sitting in the Council, and to the most select has been entrusted the solemn responsibility of being president. This doctor has years ago magnificently discharged his responsibilities in each of those offices, but he continues to serve his profession and the people of Kansas in ever broadening spheres of influence.

His professional recognition expanded to national scope when his specialty board elected him president. In Kansas he is continually drafted by the Society to serve as treasurer, and at the same time is the progressive and dynamic president of Kansas Blue Cross.

This, of course, could be none other than Dr. John Lattimore. His achievements will not easily be equalled, his influence will not soon be forgotten, and the respect and admiration he commands of all who know him will remain forever.

It is, however, for a different purpose that this statement is prepared. It is for his service beyond the call of duty, for his devotion to this practical idealism in medicine, for his uncompromising integrity in the face of criticism and misunderstanding, that this is presented. Without hope for reward, Dr. Lattimore has made untold sacrifices to serve not only medicine but the people as a representative in the Kansas Legislature. Here he successfully challenged every effort to reduce the quality of medical care and has brilliantly championed those programs that improve the conditions of health in this state.

Any attempt to express the gratitude of this Society pales before the debt that is owed him. We believe, however, that the least we can do is to give him an expression of appreciation, and therefore ask the unanimous and enthusiastic endorsement of this Society for the following resolution:

BE IT RESOLVED THAT the Kansas Medical Society award to Dr. John L. Lattimore the first distinguished service citation in its history, that this be engraved on parchment and be presented to him, and that the president announce this action of the House of Delegates at the 91st Annual Banquet of the Kansas Medical Society by reading the citation as follows:

> "For years of outstanding service to the medical profession and to the people of this state in all fields of health, for inspired leadership, for uncompromising integrity, for sustained practical idealism, the Kansas Medical Society presents to John L. Lattimore, M.D., its first distinguished service award."

General Practitioners Elect Officers

New officers for the Kansas Academy of General Practice were named at a breakfast meeting held at the Allis Hotel, Wichita, on May 17. Dr. Charles L. White, Great Bend, who took office as president at that time, will be assisted by the following: Dr. George L. Thorpe, Wichita, president-elect; Dr. A. C. Harms, Kansas City, vice president; Dr. Clovis W. Bowen, Topeka, secretary-treasurer. Directors are Dr. Clyde Miller, Wichita; Dr. Lawrence Leigh, Overland Park, and Dr. W. M. Brewer, Hays.

EENT Group Chooses Officers

Kansas physicians specializing in eye, ear, nose and throat work held a business session during their two-day scientific program at the time of the Kansas Medical Society annual meeting. Dr. Maurice J. Ryan, Kansas City, was named to head the group as president; Dr. Will D. Pitman, Pratt, vice president; Dr. Dale D. Vermillion, Goodland, secretary.

Editorial Board Appointment

Dr. John W. Cavanaugh, Topeka, was reappointed to a three-year term on the Editorial Board of the Journal of the Kansas Medical Society at the annual meeting of the Society. Dr. Lucien R. Pyle will continue as editor. Others on the Board are Dr. Orville R. Clark, Dr. Dwight Lawson and Dr. Richard Greer, all of Topeka. Associate editors are Dr. Glen R. Shepherd, Kansas City, and Dr. Donald P. Trees, Wichita.

Three to State Board

Three Kansas physicians were appointed to the Kansas State Board of Medical Registration and Examination on May 22 by Governor Frank Carlson. Dr. O. W. Davidson, Kansas City, was named to fill the unexpired term of the late Dr. J. F. Hassig, the term to end April 30, 1951. Dr. Noble E. Melencamp, Dodge City, and Dr. Lyle E. Schmaus, Iola, were appointed to four-year terms ending April 30, 1954.

Those previously serving on the board, and the dates on which their terms expire, are: Dr. Murray C. Eddy, Hays, April 30, 1951; Dr. H. E. Haskins, Kingman, April 30, 1952; Dr. M. C. Ruble, Parsons, April 30, 1952; Dr. J. D. Colt, Jr., Manhattan, April 30, 1953.

Radiological Society Meets

A breakfast meeting of the Kansas Radiological Society was held May 17 at the Broadview Hotel, Wichita. Twenty-two of the 24 members were present, as was one guest, Dr. M. J. Cox, a diplomate of the American Board of Radiology, who recently moved to Dodge City.

The accomplishments of the society were reviewed, and several business matters were discussed. A letter was written to the House of Delegates of the Kansas Medical Society, asking them to vote in favor of the Hess Report. A fee schedule for x-ray therapy, to be included in the Blue Shield plan, was directed to the Blue Shield for decision. Plans were made to send a letter to the Kansas Hospital Association stating the willingness of the Kansas Radiological Society to assist in planning and starting x-ray departments in new hospitals and arranging fee schedules. The group approved the objectives of the Kansas X-ray Technicians' Society and agreed to help in arranging programs and in sponsoring prize money to promote increased interest in film exhibits.

Noting that a nationally known radiologist has never appeared on the scientific program of Kansas Medical Society annual meetings, the organization went on record to extend greater efforts in their attempt to place radiologists on those programs.

Officers of the society are: president, Dr. Leland Glaser, Hutchinson; vice president, Dr. Harold Woods, Topeka; secretary-treasurer, Dr. Anthony F. Rossitto, Wichita; board of governors, Dr. Glaser, Dr. Woods and Dr. Rossitto.

Anesthesiologists Name Officers

Dr. Harwin J. Brown, Winfield, was elected president of the Kansas State Society of Anesthesiologists at a meeting held at Wichita May 15. Dr. R. S. McKee, Leavenworth, was named vice president; Dr. Harold F. Spencer, Emporia, secretary; Dr. Ray T. Parmley, Wichita, treasurer.

Pathologists Meet at Wichita

The Kansas Society of Pathologists held a meeting at the Lassen Hotel, Wichita, on May 17. One guest, Dr. Russell Kerr of Kansas City, Missouri, president of the Missouri Society of Pathologists, was present.

At this meeting the organization, now a year and a half old, adopted a constitution. Several business matters were discussed, including a proposal for a series of meetings to discuss medico-legal problems in Kansas.

Officers were elected as follows: president, Dr. W. W. Summerville, Kansas City; vice president, Dr. L. C. Murphy, Hutchinson; secretary-treasurer, Dr. A. A. Fink, Topeka.

The next meeting of the group will be held in September with Dr. Bert E. Stofer, Wichita, as chairman.

Psychiatric Society Elects

The following new officers of the Kansas Psychiatric Society were announced recently: president, Dr. J. T. Naramore, Larned State Hospital, Larned; vice president, Dr. Frank F. Merker, Winter VA Hospital, Topeka; secretary-treasurer, Dr. J M. Mott, Topeka State Hospital, Topeka; councilor, Dr. Thomas L. Foster, Hertzler Clinic, Halstead.

Medical Assistants in Annual Meeting

A two-day meeting of the Kansas Medical Assistants' Society was held at the Allis Hotel, Wichita, May 14 and 15. Berenice Asher, Lawrence, took office as president at the close of the meeting, and the following new officers were elected: president-elect, Maxine Williams, Kansas City; vice president, Connie Jackson, Wichita; secretary, Marguerite Mason, Lawrence; treasurer, Ethel Frey, Topeka; councilors, Virginia Foster of Winfield and Bernice Ford of Emporia.

Sports Events at Annual Meeting

The usual sports events, golfing and shooting, occupied the attention of physicians attending the 91st annual session of the Kansas Medical Society at Wichita, May 15. Favorable weather made it possible for a large number to take part in the proceedings and attend the annual tournament banquet at the Broadview Hotel that evening.

Dr. H. Lee Barry, Wichita, had championship low gross score in the golf tournament and was awarded a golf bag provided by VanPelt and Brown. Dr. C. J. Mullen, Kansas City, had low net and was given a picnic hamper, a gift from Archer-Taylor Drug Company. Dr. Ed Ashley of Chanute, second low gross, won a prize contributed by Maule Drug, and Dr. R. A. West, Wichita, second low net, received a prize from Doho Chemical Corporation.

Ratings, prize winners and prize donors for the first flight were: low gross, Dr. M. W. Hall, Wichita, Coufal X-ray Corporation; low net, Dr. C. C. Parmley, Wichita, A. S. Aloe Company; second low gross, Dr. E. S. Edgerton, Wichita, S. A. Long Company; second low net, Dr. F. N. Bosilevac, Kansas City, Doho Chemical Corporation. For the second flight: low gross, Dr. T. T. Taylor, Norton, Mead Johnson and Company; low net, Dr. George Milbank, Wichita, Bausch and Lomb Optical Company; second low gross, Dr. George Marshall, Colby, Burroughs Wellcome and Company; second low net, Dr. Orville Clark, Topeka, Ciba Pharmaceutical Corporation. For the third flight: low gross, Dr. F. J. Bice, Hays, Mead Johnson and Company; low net, Dr. G. G. Whitley, Douglass, Burroughs Wellcome and Company; second low gross, Dr. G. R. Tonn, Wichita, Goetze-Niemer Company; second low net, Dr. W. H. Browning, Wichita, Zemmer Company. A special prize for the oldest golfer, Dr. J. A. McLaughlin of Wichita, was contributed by the Hawk Pharmacy.

In the trap shooting event Dr. J. L. Jenson, Colby, won an electric broiler contributed by Continental Casualty Company for high score. Other ratings, prize winners and donors were: second high, Dr. William Brown, Paola, American Hospital Supply Company; third high, Dr. E. A. Smiley, Junction City, Mead Johnson and Company; fourth high, Dr. George Gill, Sterling, Bausch and Lomb Optical Company; tyro trap, Dr. A. J. Rettenmaier, Kansas City, Ciba Pharmaceutical Corporation.

Dr. George Morrison, Wichita, won high in the skeet shoot and received a picnic set contributed by Keith Eilerts. Others were: second high, Dr. F. B. Poling, Wichita, General Electric X-ray Corporation; third high, Dr. R. R. Cave, Manhattan, Munns Medical Supply Company, Inc.; fourth high, Dr. E. S. Brinton, Wichita, Abbott Company; tyro skeet, Dr. W. A. Smiley, Jr., Junction City, American Optical Company.

Other gifts, given at the banquet as door prizes, were contributed by Lanteen Medical Laboratories, Inc., McCormick Corset Shop, J. B. Lippincott Company, Abbott Laboratories, Medco Products Company, Fox-Vliet Drug Company, S. E. Messengill Company, American Hospital Supply Corporation, S. A. Long Company, Inc., Speer Pharmacy, and Eli Lilly and Company.

Change in K.U. Faculty

Dr. Sam E. Roberts, chairman of the Department of Otorhinolaryngology at the University of Kansas School of Medicine since 1928, has resigned that position although he will continue as a professor in the department. He has been associated with the school 35 years. Dr. G. O'Neil Proud, 36, instructor in otolaryngology at Washington University, St. Louis, has been named to succeed Dr. Roberts as chairman of the department.

Miss Owen Resigns

Miss Leanna Owen, who has been employed in the offices of the Kansas Medical Society during the past three years, resigned her position on May 20. A successor has not yet been employed.

August 1 is the date of the primary election. Are you registered to vote?

SOCIALIZED MEDICINE

(Editor's Note. This is the tenth of a series of articles dealing with federal compulsory health insurance. These are designed to give the physician factual information and reliable data which may be used in the preparation of articles or speeches on this important subject. Additional material will be presented in subsequent issues.)

Inflation

There are countless illustrations of the inflated dollar of which this statement prepared by Mr. Leonard E. Read, president of the Foundation for Economic Education, Inc., is a dramatic example. This, recall, is the current situation before the adoption of such programs as socialized medicine, the Brannan Plan and others.

On February 8, 1950, the New York Times ran this notice with a Boston date-line.

"Ted Williams, the Red Sox slugger, today signed the highest salaried contract in baseball history—for an estimated $125,000.

"Babe Ruth's $80,000 salary in 1930 and '31 was tops in the old days."

After federal income taxes, Babe Ruth had $68,535, Ted Williams $62,028. Inflation has so shrunk the buying power of the dollar that this is only part of the story. Mr. Williams' real take home pay is only a little over half of Ruth's—57 per cent.

If Ted Williams were to have as much buying power in 1950 as Babe Ruth had in 1931 he would have to be paid $327,451.

BLUE SHIELD

The Wichita Meeting

Blue Shield had a good week at the annual meeting of the Kansas Medical Society in Wichita. The week began on Sunday, May 14, with one of the most constructive board meetings ever held. The Blue Shield program was discussed at this meeting from all points of view. It was generally agreed that Blue Shield today is in a better position than ever to move forward with the development of a prepayment program for the people of Kansas.

The following officers and trustees were elected at this meeting: president, Dr. Warren F. Bernstorf, Winfield; vice president, Dr. Dwight Lawson, Topeka; executive vice president, Dr. John A. Holmes, Lawrence; secretary-treasurer, Dr. Henry S. Blake, Topeka; trustees, Dr. C. V. Minnick, Junction City; Dr. Millard E. Schulz, Russell; Dr. J. A. Blount, Larned; Mr. Ellis D. Bever, Wichita.

There was another excellent meeting held on Tuesday with the Blue Shield Relations Committee at which plans were made for the physician relations program for the coming year. The committee agreed that the district Blue Shield Relations Committee should continue to function, should hold meetings during the fall and that a more active program with county societies should be developed.

In line with the policy of the Blue Shield board, meetings were held with the three specialty groups during the week to determine their points of view and to explain the various plans ahead for the ironing out of any difficulties that may exist. An extremely helpful meeting was held with representatives of the Eye, Ear, Nose and Throat Section. These gentlemen were informed of the plans now under way for the establishment by the Kansas Medical Society of a fee committee. There was every evidence of good will between the two groups and of the intention of the E.E.N.T. Section to cooperate with Blue Shield in the development of an equitable payment schedule.

Blue Shield was represented also at the meeting of the Kansas Society of Anesthesiology. At this meeting the anesthesiologists took up the proposal that Blue Shield participate in national accounts in a form of a rider in the Blue Cross Agreement to provide anesthesia services and x-ray services for members enrolled in these large national accounts. A national account is one in which the employer has employees in more than one state. The anesthesiologists voted unanimously to endorse the proposal that Blue Shield underwrite these services.

Blue Shield representatives also attended the meeting of the Kansas Radiological Society in regard to the same question. The radiologists, after considerable discussion, appointed a committee to work with Blue Shield in drawing up the details of the proposal for further consideration by the members of their Society. It was stipulated that the committee should resolve this subject within 60 days.

The foregoing meetings are indicative of the awareness of Kansas physicians that Blue Shield is beginning to play an important part in medical economics in Kansas. There is every indication that the members of the Kansas Medical Society are taking seriously their responsibilities in trying to work out a satisfactory prepayment program for medical care for the people of Kansas. One fact stands out as a result of the various meetings: that when there is full discussion and understanding of the proposals involved, mutual trust and good will result.

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Case Report From the University of Kansas Medical Center

Clinical Pathological Conference
Convulsive Seizures and Shock in Infant

Edited by Glen R. Shepherd, M.D., and Mahlon H. Delp, M.D., from recordings of the conference participated in by the departments of pediatrics, medicine, clinical pathology, pathology, and the Junior and Senior classes of medical students.

Case Presentation

A. H., a three and one-half year old white female, was admitted to K. U. Medical Center on November 23, 1949. This child had been perfectly well until 2:00 A.M. the day of admission when she was found in a convulsive seizure with a temperature of 106°. These continued despite treatment at home with penicillin and sponge baths. At 10:00 A.M. a generalized purpuric rash was observed. She soon became comatose and was admitted to this hospital at 1:00 P.M.

Physical examination: The child was in coma. Her skin was ashen gray, cold and clammy. There were numerous purpuric spots up to one cm. in diameter over the entire body including mucous membrane petechiae. Temperature was 102° F., blood pressure 64/48, pulse 150 and very weak. The ENT was not remarkable. There was no lymphadenopathy. The neck was not stiff. The chest was clear and heart tones were loud. There was a rapid rate but no murmurs. There were no masses or organs palpable in the abdomen nor was there any rigidity. Babinski and Brudzinski signs were negative. Reflexes were not remarkable.

Laboratory examination: Urinalysis on the second day showed some granular casts and 6-10 pus cells per high power field. Blood count on admission showed 4.46 million red blood cells and 83 per cent hemoglobin, 207,000 white blood cells, 84 polys (81 filamented and three non-filamented), 11 lymphs, and five monocytes. The following day the white blood count was 38,000 with essentially the same differential. Blood chemistry showed an NPN of 33, blood sugar of 27, and CO_2 combining power of 31.9 volume per cent. Spinal fluid: one rbc, no wbc, sugar 54 and culture negative. Blood culture was negative.

Hospital course: The child was treated vigorously with penicillin intramuscularly, sulfonamides, and I.V. fluids including plasma, whole blood, salt and glucose solution. She had a convulsion immediately after fluids were started but was given phenobarbital and seemed to improve remarkably, with improvement in color, return of consciousness and increase in blood pressure to 80/60. Twelve hours after beginning treatment she again went into profound shock. The temperature rose to 106° and blood pressure became unobtainable. I.V. fluids were continued and the patient's condition once again improved. The urine output, which was very scanty the first 24 hours, increased. She seemed to be doing quite well until midnight of the second hospital day when she suddenly expired.

Dr. Delp: Are there any questions?

Question: Was there any cyanosis, headache, or vomiting prior to admission?

Dr. Winter: There is no history of it.

Question: Were cultures taken from the nose and throat?

Dr. Winter: Yes, they showed neisseria which did not have all of the cultural characteristics of meningococcus.

Question: Is there any history of the patient having any contact with patients having tuberculosis?

Dr. Winter: Not that I know of.

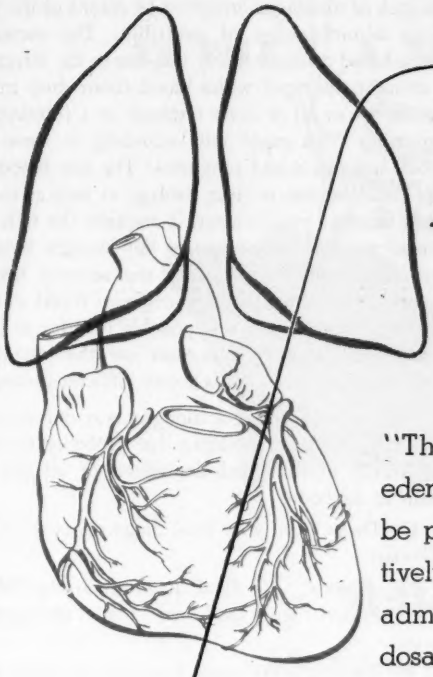
Dr. Delp: There was no electrocardiographic tracing on this patient and no x-ray of the chest. Mr. Woods, will you present your differential diagnosis?

Mr. Woods (Student): I think the three essential features of the case are the convulsions, the high fever, and the purpuric rash. With those three features in mind, here is my differential diagnosis.

I first considered rheumatic fever. I ruled it out because there were no heart lesions apparent to

Figure 1

Section of adrenal gland, X60, showing hemorrhagic infiltration with many polys (black dots) as well as disappearance of normal architecture.



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1. Barach, A. L.: Edema of the Lungs, Am. Pract. 3:27 (Sept.) 1948.

physical examination. There were no joint symptoms. There is no previous history of growing pains and usually you do not see rheumatic fever under about five years of age. I considered subacute bacterial endocarditis but I ruled it out because, first of all, the onset was too sudden. There was no enlargement of the spleen. The blood culture was negative for streptococcus viridans, and there were no heart findings in this patient. Usually you don't see fever as high in subacute bacterial endocarditis as you did in this case.

There was some controversy over the white blood count of 207,000. I considered leukemia because it produces purpuric rash and hemorrhages. It usually doesn't produce convulsions, and the onset is not nearly as rapid. The differential count showed no shift to the left. I ruled out leukemia on these features. I considered also some sort of drug rash and ruled it out on the lack of history of previous drug administration. Furthermore the temperature in drug rashes is usually normal or subnormal.

I also think you have to consider such exanthematous diseases as measles or scarlet fever. I discounted measles because you usually get such prodromal symptoms as conjunctivitis, rhinitis, and cough. Usually leukopenia is present. In scarlet fever prodromal symptoms of sore throat occur followed by a general punctate rash. Usually the fever is not as high as 106° F. Possibly the hypoglycemia which this patient had came from an adenoma of the pancreatic islet cells. Patients with adenomas do not have a high fever but they do have convulsions. Typhoid fever and Rocky Mountain spotted fever are also possibilities although they might sound a little out of line. I was able to discard the typhoid fever because it produces no convulsions and presents an enlarged spleen with leukopenia. I discounted Rocky Mountain spotted fever. Usually there is a history of some kind of tick-like bite, the spleen is palpable, and the rash doesn't appear before the fourth or fifth day. There were no meningeal signs present to indicate meningitis and the spinal fluid was negative.

My last thought was of a fulminating septicemia with the Waterhouse-Friderichsen syndrome, probably meningococcemia. There were several symptoms which I thought fit into this category. First of all was the sudden onset. Secondly, the shock the patient had, the low blood pressure and rapid pulse, and the cold and clammy extremities. The high temperature, the purpura or petechial rash, the coma and leucocytosis also fit into this picture. You seldom get meningeal irritation during this stage of meningococcic invasion.

The convulsions that were present were due, I thought, to a high fever. I further tried to explain the lack of meningeal irritation by means of the previous administration of penicillin. The increased white blood count probably was due to the infection. I thought the rapid white blood count drop might be due to an all or none response to a fulminating infection. This rapid fall, according to some authors, suggests a bad prognosis. The low blood sugar could be due to liver damage as well as to the acute adrenal insufficiency. I thought the CO_2 decrease was due to the loss of left to right balance, particularly of sodium from the adrenal insufficiency. I can't explain the negative blood culture findings except to say that possibly it is due to penicillin therapy. Several authors say that trying to find the meningococcus is a very difficult procedure.

The cause of death, I thought, was due to some type of circulatory collapse due probably to overwhelming toxemia and depression of all the systems in the body.

Dr. Delp: And your final diagnosis is what, Mr. Woods?

Mr. Woods: My final diagnosis is the Waterhouse-Friderichsen syndrome with meningococcemia.

Dr. Delp: Dr. Wenner, from the diagnosis made so far we could use some information about cultures. Can you add anything?

Dr. Wenner: A single blood culture taken on the 23rd, the first day of admission, was negative after 10 days incubation. The petechiae, in addition, were pressed for culture because meningococci often are found in petechiae and can be isolated from them. All of the petechial cultures were negative after 72 hours. Spinal fluid culture was negative. Nose and throat cultures were obtained and a neisseria was isolated from the nasopharynx and from the oropharynx. Those are all of the ante mortem cultures that were obtained.

Cultures of the peritoneal fluid and meninges were negative at five days. Cultures were, in addition, made from pleural fluid and pericardial fluid and a neisseria was isolated from these fluids. Apparently they were cultured together.

Pathology resident: They were separate.

Dr. Wenner: Post mortem blood cultures were not taken?

Pathology resident: No.

Dr. Wenner: All right. In running this down to identify the neisseria, we met with some difficulties. The organism is not typical of a neisseria meningococcus or gonococcus, which are common offenders. It doesn't ferment dextrose, maltose, and sucrose. The only one that really would fit into that category would be neisseria catarrhalis which is a

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common saprophytic organism of the throat. Recent reports are that it becomes pathogenic, but very rarely. However, it doesn't quite fit neisseria catarrhalis because this organism is usually avirulent in laboratory animals. This sub-culture was inoculated into a single mouse and the mouse died in approximately 20 hours. Neisseria were cultured from the mouse, indicating that the mouse developed a septicemia. So at the present time all of the findings point to a neisseria, a gram negative diplococcus isolated from the patient. We are going to have to identify it by serological means and that is not finished yet.

Dr. Delp: Well now, Dr. Wenner, from your vantage point just what do you think this child had?

Dr. Wenner: I think it is most likely that the child did have an overwhelming septic infection. This organism probably played a responsible role. My conclusions would be very much the same as some of those outlined by Mr. Woods with respect to the shock and the purpura and the obvious swift course of the disease.

Dr. Delp: But you wouldn't be willing to say that it is meningococcemia?

Dr. Wenner: I do not believe that it is a meningococcemia.

Dr. Delp: There are a number of things we would like to clear up with regard to this case but we will try to do it after we are on a little firmer footing, if we are, after the pathologist's report.

Gross Pathology

Pathology resident: On general inspection the findings are negative except for generalized petechiae and echymoses as have been described. The peritoneal cavity contained 250 to 300 cc. of clear straw-colored fluid. At the time of autopsy we thought the mesenteric nodes were larger than normal. The chest contained about 50 cc. of straw-colored fluid on each side. The glands showed subcapsular hemorrhages. The heart weighed 75 grams and the valve rings were slightly larger than normal. There were a few pericardial petechial hemorrhages. The lungs showed petechiae over the visceral pleura and both lower lobes were congested and wet. The spleen was slightly enlarged, weighing 75 grams, was soft and had very prominent malpighian bodies. The kidneys were swollen but otherwise negative. The right adrenal gland weighed six grams and the left eight grams. Both were diffusely hemorrhagic and normal architecture was completely lost. The brain weighed 1120 grams. We didn't notice anything unusual about it on gross examination. Our provisional gross diagnosis was cutaneous, pleural, and pericardial petechial hemorrhages; bilateral adrenal hemorrhage; hypostatic congestion of the lungs; acute splenitis; questionable toxic necrosis; and cardiac hypertrophy and dilatation.

Microscopic Pathology

Dr. Boley: The thing that is prominent in the adrenal gland section is the number of red blood cells that pack this adrenal gland. Numerous polys are also scattered in here and show up as the little black dots. The gland is quite hemorrhagic. Some of the adrenal cells have undergone necrosis and have disappeared. I did various stains trying to bring out bacteria because I understood that the cultures weren't successful. However, I was not able to find organisms in this tissue or any of the other tissues.

The other section I would like to show is from the meninges. The blood vessels do not contain an excessive number of polys, so that it isn't just ordinary blood that is in the adrenal. It is an infiltration of polys along with the hemorrhagic area. Some of the polys in the meninges are in capillaries but others are out in the stroma so that it does have the appearance of an early meningococcus meningitis. I think that this child had a meningitis. That it is a meningococcus meningitis has not been proven. To be frank with you, I am picking the place of greatest infiltration in the meninges, so that it is very slight. About the only thing we can say, Dr. Delp, is that this child did die of a bacteremia. No bacteria were found in the blood which is rather ridiculous for that diagnosis, but I do believe that she died of overwhelming toxemia.

Dr. Delp: Would you classify this from the findings as a Waterhouse-Friderichsen syndrome?

Dr. Boley: I don't think we should use that term. I think we should say the child had bilateral adrenal hemorrhage. I don't think that is the thing that caused the drop in blood pressure as has been expressed before. I think that is only a part of the manifestations of the bacteremia that the child had. If you want to designate it Waterhouse-Friderichsen syndrome, it does fit that category.

Dr. Delp: Is there enough bleeding into the adrenal tissue to fit the classical gross pathological picture of Waterhouse-Friderichsen syndrome?

Dr. Boley: Yes.

Dr. Wilson: Disregarding the laboratory data in this case, how would you differentiate a death from hyperpyrexia from what you see here on your pathological slide? This child did have hyperpyrexia over about a four- or five-hour period, 106° to 107° F.

Dr. Boley: About the only evidence that we could have for hyperpyrexia is disruption of the liver cords. That wasn't true in this case.

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Dr. Wilson: Are they always disrupted in hyperpyrexia?

Dr. Boley: That is my point. But this case doesn't show it. So, as far as saying that this child had hyperpyrexia, I can't say that it did.

Dr. Wilson: It did according to the clinical chart.

Dr. Delp: Dr. Boley, do you think this patient died of an acute adrenal insufficiency?

Dr. Boley: I think she died of bacteremia. The adrenal insufficiency is just a part of the picture like petechiae. The petechiae didn't kill the child. I think the adrenal hemorrhage happened 48 hours before her death when the petechiae occurred and the polys came in because of the hemorrhage at that time.

Dr. Delp: Dr. Miller, do you have some comments now?

Dr. Miller: The child was practically dead when she arrived and was moribund, cold, clammy, and in shock. Blood pressure was unobtainable and I would be very skeptical that adrenal insufficiency could do that to a child in 12 hours. Now, if you had said three or four days, I'd buy it. So that it is clear to me, perhaps erroneously, but at least I think so now, that this child was sick because of the overwhelming infection. She was in shock because of the fact that the capillary bed throughout the body was pretty well injured. Perhaps they can't see it on microscopic examination. But clinically, this child had all the appearance of a child in shock. As we treated her the child became more and more edematous, which confirmed my feeling that the capillary bed was injured. It reminds me very much of the autopsy we had here two or three weeks ago of a man who was electrocuted. The effect on the vascular bed probably was much the same though the organisms or agents were different. In meningococcus septicemia the petechiae are produced presumably by thrombosis of the capillaries by the meningococci. You didn't see any thrombi?

Dr. Boley: I didn't find any thrombi in the adrenals either.

Dr. Miller: But in the skin or subcutaneous tissues, etc.?

Dr. Boley: None of the tissues.

Dr. Miller: I have no doubt in my mind that this child had an overwhelming infection. The child had the typical classical course for meningococcus septicemia. We have recovered an organism which true enough is not a typical meningococcus but it is a neisserian organism. There have been patients reported with a similar type of clinical syndrome caused by staphylococcus or hemolytic streptococcus. Ninety-nine per cent of them are said to be due to the meningococcus. We have an organism postmortem that comes close to the meningococcus.

Dr. Delp: Dr. Miller, were you surprised at all at the spinal fluid findings reported here?

Dr. Miller: No. It is the usual thing in overwhelming meningococcus septicemia to have spinal fluid negative. There are occasional reports in which the spinal fluid shows no cellular pleocytosis and yet you can recover the organism from the spinal fluid. There are many cases where the spinal fluid is negative in culture and negative to any type of examination that is made and that doesn't surprise me at all. These people die too quickly for a meningitis to develop—they are so overwhelmed by the infection.

Dr. Delp: I think that a couple of points that Dr. Miller has made deserve emphasis. First of all, it is certain from experimental evidence that complete extirpation of the adrenal glands in the experimental animal doesn't result in death in a manner similar to that described here. I suppose, as Dr. Miller emphasized, this child was under such stress that destruction of the adrenal gland might have a more severe effect upon the patient's physiology than would be seen in the experimental animal. It seems to me quite impossible to explain this clinical picture on the basis of destruction of the adrenal gland. Any of you who have been so unfortunate as to watch a child or adult die with diphtheria know that you have almost this identical picture, yet very infrequently is there any disruption or change in the adrenal gland. I think that histochemical studies show some changes in the adrenal gland but nothing so dramatic as is associated with meningococcus and the so-called Waterhouse-Friderichsen syndrome. The fall in blood pressure simply cannot be explained in that manner. It must be explained, as Dr. Miller has mentioned, by alteration in the fluid balance in the individual by increased capillary permeability.

Eighteen months ago we presented in this CPC a patient with an overwhelming septicemia from a hemolytic streptococci who had not just a bleeding into the adrenal gland but massive bilateral adrenal hemorrhage. Here the organism was readily identified. That patient likewise had purpuric spots or petechiae.

Dr. Calkins: May I ask a question? Why, if this was such an overwhelming bacteremia septicemia, did the patient have 207,000 white blood cells?

Dr. Delp: Platelet counts have been done on many of these patients and the counts are invariably all right. You simply have to explain the purpuric lesions upon some damage in the peripheral area. It is also well known that, as Dr. Wenner men-

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tioned, you can isolate organisms from the area of these petechial lesions and I suppose someone might say, "Well, those are embolic phenomenon." Someone might suggest that the organism itself in that local area produced capillary damage and the bleeding occurred around it. Dr. Wenner, can you tell us what the local phenomenon might be?

Dr. Wenner: I am not positive. It is probably some toxin in the blood. That is the usual cause.

Dr. Delp: Yes, I think that is right. Well, I think our term, "overwhelming infection," is a relative one. I don't know whether that should be applied to this case or not. Obviously it was overwhelming because the patient succumbed, but whether or not that implies this patient couldn't have mobilized 207,000 white cells, I am not sure. I have seen such a leukemoid reaction only with sulfonamide reactions in previous cases. Would you like to comment about this type of blood count, Dr. Wilson?

Dr. Wilson: I haven't seen it that high. Going back to hyperpyrexia, we do know that some of those patients develop a high white count initially. This is out of proportion to what one sees even in that type of condition.

Dr. Calkins: It is usually the reverse in most fulminating infections.

Dr. Wilson: In some of them. I remember one case of a ruptured appendix with a generalized peritonitis that had a white count of around 60 or 70 thousand. There were many toxic granules indicating that the cells were being called out from the bone marrow very quickly as all toxic granules are immature granules of immature cells.

Dr. Delp: Dr. Miller, I know that cortical extract has been used on every conceivable type of patient and I have seen it used on a number of such patients. Do you have any comments as to whether or not it could have been of value in this case or whether it generally is of value.

Dr. Miller: We gave her a cortical extract. We gave her five cc. every six hours. I have no objections to giving cortical extract to these patients. She came in at two o'clock and was kept on constant oxygen all the way through. An intravenous drip was begun immediately and improvement occurred. Then shock recurred at five o'clock in the morning. The I.V. drip was begun again. We were worried all this time about giving fluid—fearing we would give too much—because we were dealing with a circulation that was poor. One of the complications that you run into with treating meningococcus septicemia is pulmonary edema. We had no evidence of such at any time, in spite of the rather heroic amounts of intravenous fluids that she received. Terminal pulmonary congestion was noted at autopsy. I was surprised that it didn't develop earlier and I am surprised that there wasn't more pulmonary congestion at autopsy.

This child received 600,000 units of penicillin intravenously when she came in and 200,000 units every three hours thereafter. She received sulfonamides later. We didn't give her sulfa drugs until then because of the danger of producing renal disturbance in a child with profound shock. We were perfectly willing to gamble that the penicillin that she received on the outside, plus the 600,000 units intravenously given here, would take care of the infection. Perhaps we should have given her the sulfa drugs when she came in. However, a person in shock is a dangerous person to be giving large amounts of sulfonamides to.

Dr. Delp: My experience with cortical extracts has never been good in these cases. Patients that I have given them to have not responded. In this particular type of situation I have seen no depression or elevation of the blood pressure, nor an amelioration of the cardiovascular collapse state by the use of such extract.

Summary

Clinically this case fits very well the criteria for a diagnosis of meningococcemia following a fulminant course with death resulting during the irreversible cardiovascular collapse state. Failure to secure positive blood cultures detracts from the completeness of evidence for this diagnosis.

The post mortem findings of bilateral adrenal hemorrhage do not prove that death was due to adrenal insufficiency. Although there remains the belief that death in the Waterhouse-Friderichsen syndrome implicates the adrenals, this seems unsound.

Historically, Waterhouse-Friderichsen's syndrome has come to be associated with fulminant meningococcemia but the finding of adrenal hemorrhage does occur in other infectious processes. Waterhouse, in his case report of 1911, thought he was reporting upon a case of smallpox although the clinical description more clearly fits epidemic meningitis. Of further interest is the fact that Voelcker's description of the identical syndrome antedated Waterhouse's report by 16 years.

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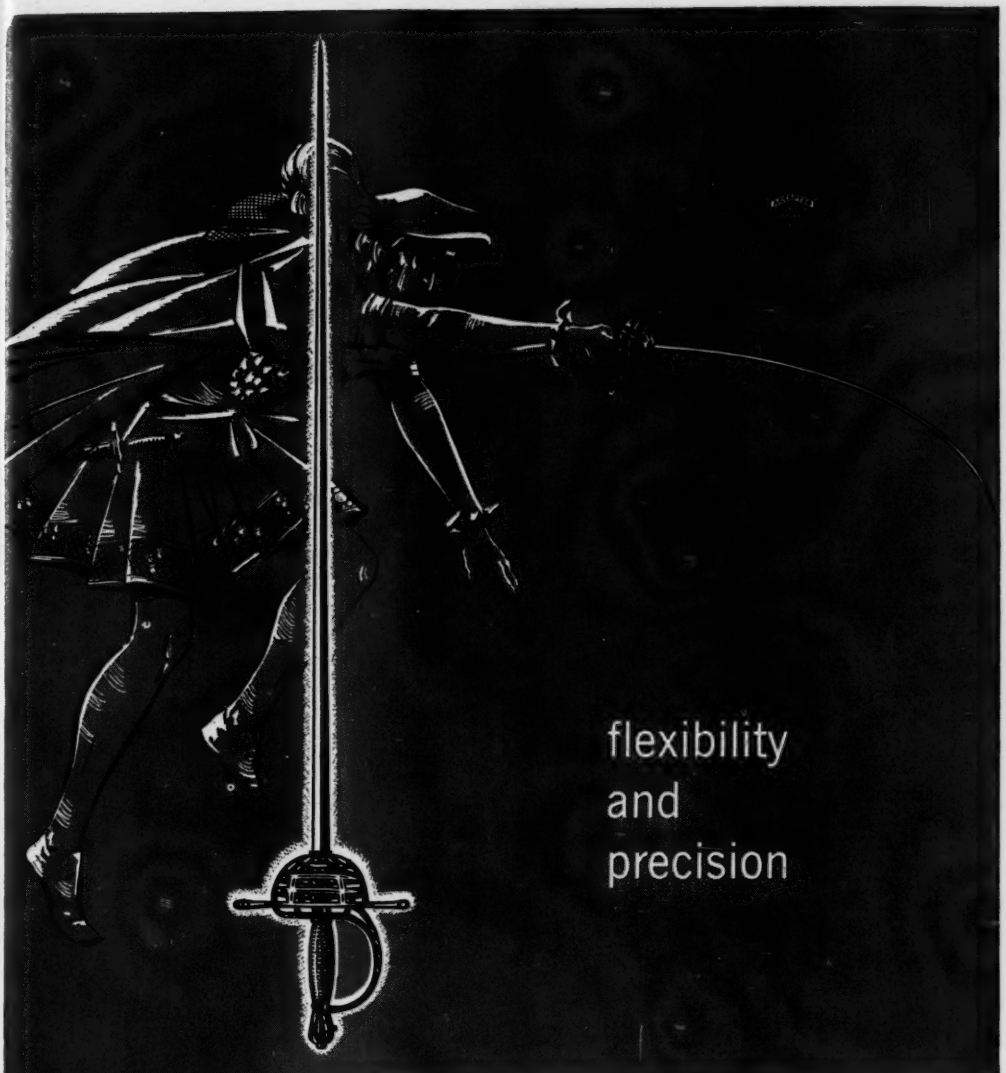
The University of Kansas Medical Center has received a grant from the Kansas Division of the American Cancer Society for the purchase of ACTH and cortisone for clinical research on acute leukemias in children, an amount sufficient for enough of the drugs to study their value in three children. Dr. Sloan J. Wilson will direct the project.



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Where Next In Infant Mortality?

The decrease in infant mortality is well known. The reduction is due largely to the successful fight against infectious diseases which has occurred in the age period between one month and one year. There has been little decrease below one month in the period referred to as "neonatal."

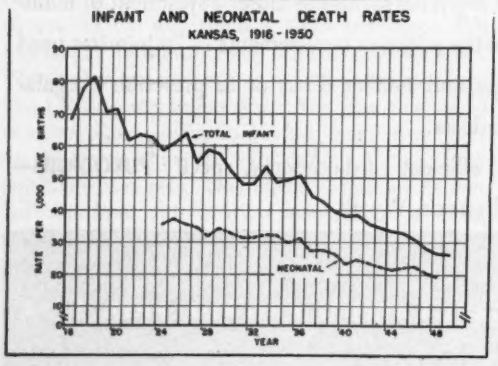
It is obvious from the graph showing neonatal and infant mortality rates that there must be a reduction in neonatal mortality if we are to expect further reduction in infant mortality. The two lines are about to meet. Let us take a look at the task ahead of us. Of the total infant deaths under one year:

38 per cent of the deaths are under one day
30 per cent from one day to one week
6 per cent from one week to one month
26 per cent from one month to one year

Roughly, these time periods outline our problems. The earliest deaths are largely due to lack of viability because of prematurity or congenital malformation or birth injury. Deaths in the next two age groups are largely due to infection. Those before one week represent infections contracted in the hospital; those over one week, at home. Though there is considerable overlapping, by and large, any one community, hospital, or medical group, can use the time of death to determine where emphasis should be placed.

Because we are dealing with different causes of death, physicians in private practice and in public health must use different methods of attack. For example, immunization against diphtheria, which once was effective in preventing deaths, while a good procedure which should be continued, is not effective against the deaths we are having today. Prevention depends upon other factors.

Prevention of the earliest deaths, under one day, depends largely upon three factors: 1. better education of the mother, 2. improved quality of obstetric care, including improved techniques of delivery, and 3. preparation for emergency care of the newborn infant.



The first and more important of these, education of the mother, can be accomplished through maternity classes coupled with the judicious use of public health nursing visits. The classes are being emphasized by the Maternal Welfare Committee of the Kansas Medical Society with the enthusiastic approval of the Child Welfare Committee. Evidence in the literature and from Kansas mortality statistics points toward education of the mother as an important measure in preventing further infant deaths. Maternity classes are established to provide this education. In many communities physicians are cooperating with the Maternal Welfare Committee by encouraging classes and referring patients to them. In other communities refusal by physicians to cooperate with the committee, even after a letter from its chairman, is hardly understandable in the face of present neonatal mortality. In a county with a full-time health department or with a public health nurse, there is no reason why physicians should not demand that these classes be made available for their patients, just as the physicians in Oklahoma City did a few years ago. Public health nursing visits, coupled with maternity classes, should encourage earlier visits of expectant mothers to their physician.

Need for improved quality of obstetric care is brought out when it is found that one physician has one per cent of all the infant deaths in Kansas, while another physician with even a larger obstetric practice, reports only one death in a year. If the difference in educational and social status of the patients could account for the difference in mortality rates, mothers' classes should be an equalizing factor. However, most would agree that there is probably a difference in the quality of care.

Refresher courses are being offered through the combined efforts of the Kansas State Board of Health, the Kansas Medical Society, and the University of Kansas Medical Center. Limited funds are made available by the Kansas State Board of Health for stipends to physicians who desire to attend the obstetric refresher course. No criteria are used in distribution of these funds except that they be used in as many counties as possible. More such funds should be made available. The birth of a premature infant or any with a malformation should be considered as a failure of preventive medicine. It goes without saying that we must care for emergencies until the time arrives that we are able to prevent them. Every hospital should be prepared for emergencies in early newborn care and the physicians should have skill in treating these emergencies.

50 and 3

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Prevention of deaths in the one- to seven-day age group depends greatly upon protection against infection. Infant diarrhea as a killer in the second summer has been conquered, but it now looms as a specter in the newborn nursery. Influenza and pneumonia are also to be reckoned with in the newborn. Sulfa drugs and antibiotics help to control infections but cannot and should not be depended upon. Hospital nurseries should be constructed and operated to prevent cross infection. It is an unsound practice to allow poor techniques, then to depend upon the use of drugs to stop the infection once it has started. We all know that these drugs are not effective in many infections.

While death in the 7- to 30-day age group may be due to lack of viability or to an infection obtained in the hospital, other factors also enter. Difficulty in feeding adjustment is one factor. However, many of these infants have returned from the hospital and factors in the home must be recognized as playing a part, while the physician and hospital take a lesser part than previously.

This does not mean, however, that either can relinquish its responsibility. An increasing number of hospitals are recognizing this in their teaching care of the newborn infant to the mother before she is dismissed.

The physician should follow suit. Just as he has learned to use hospital nursing service to assist him and the patient in the hospital, he should learn to use community nursing services to assist him and the patient in the home. Besides the physical examination of the infant, positive education of the mother by the physician, as well as certain warnings, are indicated. He should tell her what to expect in infant behavior and how to handle it; he should warn of dangers of infection and accident; and he should give instructions for continuance of terminal sterilization of the formula in the home, just as it has been done in the hospital. The method is as simple as previous methods used and has an added safety factor.

We should not discontinue efforts in the field of sanitation and well-child supervision which have caused a decline in the period between one month and one year. Certainly if the infant death rate is higher than average for this period of life, it should cause one to suspect that much is not being done that should be done to protect infant lives. It should cause physicians and community to take stock. But we must focus attention on the neonatal period in which deaths will be prevented by better education of the mother, better preparation of and consultation for the physician, and better hospital techniques. This is the challenge of infant mortality in the future.

COUNTY SOCIETIES

A joint meeting of the Clay County Society and the staff of the Clay Center Municipal Hospital was held at the hospital May 10. Dr. J. L. Lattimore, Topeka, was guest speaker. Dr. R. B. McVay was named delegate to the state meeting.

* * *

The Labette County Medical Society sponsored an open dinner meeting at the Parsons VFW Hall May 10. Dr. Franklin D. Murphy, dean of the University of Kansas School of Medicine, addressed the gathering.

* * *

Doctors and Auxiliary members of St. Francis entertained members of the Northwest Kansas Society and Auxiliary at a dinner meeting at the home of Dr. and Mrs. Haddon Peck on April 16.

* * *

Dr. Robert H. Maxwell was elected president of the Sedgwick County Society at a meeting held May 2 at Wichita. Other officers named are: vice president, Dr. J. L. Beaver; secretary, Dr. Howard C. Clark; treasurer, Dr. E. S. Brinton; censor, Dr. A. E. Hiebert; directors, Dr. G. F. Corrigan, Dr. E. L. Mills and Dr. D. P. Trees. Those elected will take office in January, 1951.

* * *

The Medical Speakers Bureau sponsored by the Lyon County Society has contributed 80 talks in various county gatherings, according to a recent compilation by Dr. E. J. Ryan, president of the group. The service of providing speakers will be discontinued during the summer and will be resumed in October. The subject chosen most often was "Socialized Medicine," a topic on which 45 talks were made. Other popular subjects were cancer, psychiatry, the heart, nutrition and diet.

* * *

A meeting of the Shawnee County Society was held May 1, when delegates to the state meeting were elected. The evening's discussion was on "Current Legislation and the A.M.A. Publicity Campaign," with Mr. Oliver E. Ebel as guest speaker.

* * *

Dr. Ferdinand C. Helwig of Kansas City was guest speaker at a meeting of the Lyon County Society on May 2. He gave a pathological discussion of cases from Newman Memorial and St. Mary's Hospitals.

* * *

The Wyandotte County Society met May 23 at the City-County Health Building. Dr. T. G. Dillon discussed a paper by Dr. John Martin, "An Objective Symptom—Hematuria," and Dr. A. F. Noth-

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nagel discussed a paper by Dr. T. G. Orr, Jr., "Richter's Hernia." The society will not meet during the summer months.

* * *

A health essay contest sponsored by the Marion County Society created a great deal of interest among high school students in the county. Winners received prizes of $20, $10, $7.50 and $5.00, and their entries were forwarded to the national health essay contest.

ACTIVITIES OF MEMBERS

The last day of a three-day homecoming celebration held at LaCrosse in May was termed "Dr. Baker Day" in honor of Dr. Joseph H. Baker who has practiced there 35 years.

* * *

Dr. Ed A. Smiley was top scorer in the Junction City Gun Club's handicap event on April 30.

* * *

Dr. George M. Gray, Kansas City, was presented a 50-year Royal Arch Mason pin on May 6 at the annual spring festival of York Rite bodies.

* * *

Five hundred persons were present at a community celebration in Blue Mound on May 7 when Dr. J. T. Kennedy was honored for his service to the community during the last 46 years.

* * *

Dr. Fred Mayes, director of the Wichita-Sedgwick County Health Department, will resign that position July 1 to become director of public health at Brookline, Massachusetts, and assistant professor of public health at Harvard University. Dr. M. L. Bauman, Parsons, has been named to succeed Dr. Mayes in the Wichita position.

* * *

Dr. C. Alexander Hellwig, formerly of Wichita, is now pathologist at the Hertzler Clinic, Halstead.

* * *

Dr. DeWitt S. Lowe, Hiawatha, was baccalaureate speaker at the Hamlin Rural High School May 14.

* * *

Dr. L. S. Steadman, Junction City, has resigned as Geary County coroner and Dr. C. V. Minnick, Junction City, has been named to the position. Dr. Steadman is in his 55th year of medical practice.

* * *

Dr. R. F. Freeman, Nortonville, has announced the purchase of the Jefferson County Home near Oskaloosa. He will remodel the building and open it in the fall as a convalescent home, operated by a medical director and registered nurses.

* * *

Dr. E. V. Thiehoff, chairman of the Department of Public Health at the University of Kansas School of Medicine, was elected president of the Kansas Health Conference at an organization meeting held at Emporia May 8.

* * *

Dr. Howard Snyder, Winfield, spoke on socialized medicine before the Pawnee County Council of Women's Clubs at Larned May 1.

* * *

Reports from LaCrosse indicate that contributions to a fund as a memorial to the late Dr. J. E. Attwood have assured the furnishing of the nursery at the new Rush County Hospital.

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Dr. Edgar P. Sereres, Kansas City, recently completed a postgraduate course in bronchoscopy in Chicago.

* * *

Dr. P. R. Young, who retired from practice in Ottawa several years ago, has reopened his office there to specialize in eye, ear, nose and throat work.

* * *

Dr. L. L. Bresette, who completed his term of office as president of the Kansas City Chamber of Commerce in April, was given a gift by members of the medical profession on that occasion.

* * *

Speakers at the third annual convention of the Kansas Society of Medical Technologists, held at Wichita late in April, included the following: Dr. J. P. Berger, Dr. W. P. Callahan, Jr., Dr. B. E. Stofer and Dr. Fred Mayes, all of Wichita; Dr. J. L. Lattimore, Topeka, and Dr. C. A. Hellwig, Halstead.

* * *

Dr. Bruce G. Smith, who recently completed a postgraduate course in internal medicine at Bellevue Hospital in New York, has joined the staff of the Meek-Stensaas-Hill Clinic in Arkansas City.

* * *

Dr. T. D. Ewing, resident physician of the county hospital in Wichita during the past year, has opened an office for general practice in Bushton. He is a graduate of the University of Kansas School of Medicine and served several years with the armed forces in Japan.

* * *

Dr. George L. Gill, Sterling, won the high overall trophy in the Kansas Northern Trapshoot sponsored last month by the Newton Gun Club.

* * *

Dr. Rodger A. Moon, Emporia, has announced that his future practice will be confined to pediatrics in association with Dr. D. R. Davis. Dr. Moon was recently appointed to the pediatric staff of the University of Kansas Medical Center and will spend one day each week at the school.

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Dr. J. L. Mothershead, Denton, who recently announced plans to return to the Army medical corps, reports that his practice in Denton will be taken over July 1 by Dr. Max E. Musgrove of Minneapolis and Dr. Emerson D. Yoder of McPherson. Both were graduated from the University of Kansas School of Medicine in 1949 and are completing internships at the Kansas City General Hospital.

* * *

Dr. R. P. Watterson, with offices in McPherson and Inman, announces that Dr. P. H. Hostetter, formerly of the Hertzler Clinic, Halstead, is now associated with him in practice.

* * *

Dr. Donald L. Rose, associate professor of physical medicine at the University of Kansas Medical Center, was principal speaker at a meeting of the Kansas Occupational Therapy Association at Kansas City in April. His topic was "Occupational Therapy in the Treatment of Rheumatoid Arthritis."

* * *

Dr. Vernon Winkle, Kansas City, was installed as president of the Kansas Public Health Association at a recent meeting held in Kansas City.

* * *

Dr. F. S. Brenneman, formerly of Hesston, has moved to Moundridge to take over the office of Dr. D. V. Preheim, who is now doing postgraduate study.

* * *

Dr. Doyle Shrader, who has been practicing in Des Moines, has returned to Kansas and has opened an office for ear, nose and throat work in Wichita.

* * *

Dr. Roy B. Coffey, son of the late Dr. Frank E. Coffey of Hays, has opened an office for practice in Whitewater. He was graduated from the University of Kansas School of Medicine and has just completed a residency at the Kansas City General Hospital.

* * *

The Kansas Society of X-ray Technicians, meeting in Wichita in April, heard addresses by the following physicians: Dr. Earl Mills, Dr. C. M. White, Dr. A. F. Rossitto, all of Wichita; Dr. L. F. Glaser, Hutchinson; Dr. L. K. Chont, Winfield; Dr. R. W. Urie, Parsons, and Dr. G. M. Tice, Kansas City.

* * *

Dr. C. E. Long, Norton, was a special guest of the 1950 graduating class of the Prairie View High School. Dr. Long was the physician who brought the entire class into the world in the early 1930's.

* * *

Dr. J. L. Lattimore, Topeka, was re-elected president of the Kansas Blue Cross Board of Trustees at a meeting held at Topeka May 21. Dr. Thomas Butcher, Emporia, was elected to a vacancy on the Board of Directors.

* * *

Dr. F. R. Croson, Clay Center, president of the Kansas Medical Society, was featured in the "Who's Who" column of the Sprocket, publication of the Clay Center Rotary Club, on May 22.

* * *

Dr. W. H. Fritzemeier, Wichita, recently became a diplomate of the American Board of Dermatology and Syphilology.

* * *

Dr. F. C. Beelman, secretary of the Kansas State Board of Health, was unanimously elected to the board of directors of the National Health Council at a recent meeting of delegates.

DEATH NOTICES

CHARLES WADDLE LAWRENCE, M.D.

Dr. C. W. Lawrence, 80, an honorary member of the Lyon County Society, died April 29 at Emporia. He was graduated from the University Medical College of Kansas City in 1904 and opened an office for general practice in Emporia in 1906. In 1922 he limited his practice to surgery, continuing in that field until his retirement last year.

* * *

OWEN G. HUTCHISON, M.D.

Dr. O. G. Hutchison, 71, an active member of the Marshall County Society, died at his home in Marysville May 10 after suffering a coronary occlusion. He received his medical education at the University of Illinois College of Medicine, graduating in 1904. He practiced in Wichita for 30 years, and moved to Marysville 12 years ago to take charge of eye, ear, nose and throat work at the Randell Clinic and Hospital.

* * *

LOT DALBERT MABIE, M.D.

Dr. L. D. Mabie, 84, who had practiced in Kansas City more than 50 years, died May 22 after an illness of several months. He was graduated from the College of Physicians and Surgeons of Kansas City in 1897 and began practice at the conclusion of internship at the old Bethany Hospital. During World War I he served in the Army medical corps in France. He was a member of the Wyandotte County Medical Society and a fellow of the American College of Physicians.

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Herbert W. Schmidt, M.D., Rochester.....Diagnosis and Respiratory Tract
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Richard W. TeLinde, M.D., Baltimore.....Uterus and Ovary
Wolf W. Zuelzer, M.D., Detroit.....Malignancies in Children

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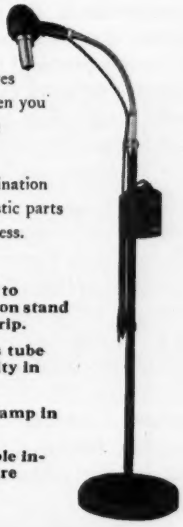

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BOOK REVIEWS

Current Therapy. By Howard F. Conn, M.D. Published by W. B. Saunders Company, Philadelphia and London. 736 pages. Price $10.

This book is the second of a series which is designed to present the latest approved methods in the treatment of diseases to the practitioners. It is edited by a board of 12 consulting editors, and the procedures as practiced by 250 contributors are given.

The contents are divided into 15 sections: infectious diseases, diseases of the respiratory system, diseases of the cardiovascular system, diseases of the blood and spleen, diseases of the digestive system, diseases of metabolism and nutrition, diseases of the endocrine system, diseases of the urogenital tract, the venereal diseases, the allergic diseases, diseases of the skin, diseases of the nervous system, diseases of the locomotor system, obstetric and gynecological conditions and diseases due to physical and chemical agents.

The discussions are brief and to the point. In some cases they are rather sketchy and lack information which might be desirable, in that they do not establish a reasonable basis for the agents used or rationalize their employment. Hence, it cannot be regarded as a text book of therapeutics. However, in many instances practical information concerning the actual care and handling of patients, which frequently is missing in discussions of therapy, is given in considerable detail. The discussions do not contain references to the literature but they present the methods currently practiced by the contributors. The methods of two or more authorities for treating a single condition are often given. This is an attractive feature in principle, but in some cases the discussions are so similar that no great practical value is achieved.

The book is well indexed. One of its most attractive features is its format. The double columned pages are printed in large, clear type which makes it very convenient for quick and ready reference. As a manual of current therapy, it can be highly recommended for practitioners.—*W. H. A.*

* * *

Postgraduate Gastroenterology. Edited by Henry L. Brooks, M.D. Published by W. B. Saunders Company, Philadelphia. 670 pages, 258 figures. Price $10.

This is the 1948 course in gastroenterology under the auspices of the American College of Physicians in Philadelphia published in book form. It presents the more recent advances and certain controversial subjects of gastroenterology.

Each topic is discussed by several different authors, chiefly from the University of Pennsylvania, who comment regarding their particular interest: experimental, physiologic, pathologic, biochemical, pathological, radiological, clinical, surgical and therapeutic.

The following problems form the chapter headings: esophageal disorders, gastric secretion, gastric neoplasms, peptic ulcer, relation of neuropsychiatry to gastroenterology, secondary gastrointestinal disorders with particular emphasis on allergy and abdominal symptoms of endocrine origin, pancreatic disorders, mechanism and significance of abdominal pain, diseases of the liver, non-specific enteritis and colitis, intestinal obstruction, jaundice, and colonic diseases.

Numerous cases are described to illustrate each subject. The figures, chiefly photographs of x-rays, are abundant and well-labeled. The discussion of these topics presents the results of recent work and current investigations and does not attempt to review well accepted principles or historical facts. In general the bibliography for each chapter is small or absent.

This book will be welcomed by those who are interested in timely developments in gastroenterology, particularly from the internist's viewpoint. It will not be fully appreciated by the newcomer to this field, unless the fundamentals of gastrointestinal disease are familiar.—*C. F. K.*

* * *

The Cytologic Diagnosis of Cancer. Staff of the Vincent Memorial Laboratory, Boston, Massachusetts, of which Ruth M. Graham is the major author assisted by the other members of her staff. Published by the W. B. Saunders Company, Philadelphia, under the auspices of The American Cancer Society. 229 pages with 517 illustrations and 153 figures and 30 pages in color. Price $6.50.

This excellent book, the first one of its type to be published, covers the field of cytologic diagnosis from a purely technical and cytological standpoint. The illustrations are excellent, being both low and high power photomicrographs with the camera lucida drawing in all instances and in some places these camera lucida drawings are in color. They demonstrate many of the various type cells seen in smear diagnosis, giving first a typical cell type seen in the various secretions evaluated, and later on, their variations and finally a comparison of the difficulties arrived at and encountered in the interpretation and general criteria for identification. It evaluates not only the vaginal smear diagnosis but includes also the examination of smears from the respiratory tract, gastric mucosa and urinary tract as well as cells of pleural and peritoneal fluid. Chapter

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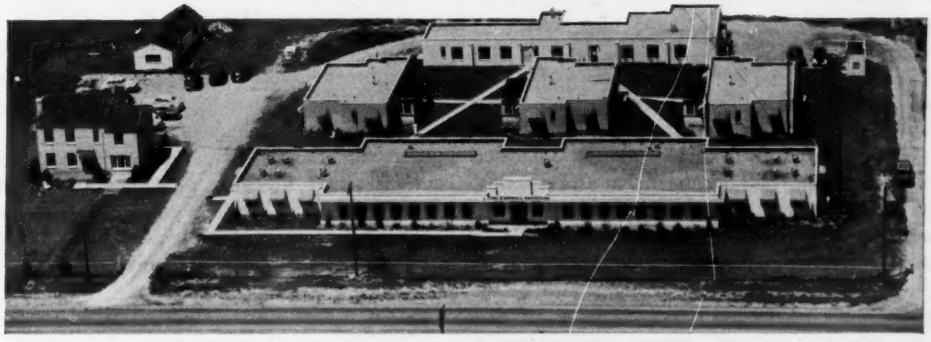

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20 is devoted to technique and brings out a number of "important little tricks," not generally known or included in most of the descriptions of this procedure.

For one who has had some training in cytology, this book is an excellent aid. However, it might be confusing to someone with no knowledge of the procedure and attempting to make smear diagnoses in malignant disease.—*R. W. K.*

* * *

Diseases of the Foot. By Emil D. W. Hauser, M.D. Published by W. B. Saunders Company, Philadelphia. 415 pages, 195 illustrations. Price $7.00.

This is the second edition of this well known treatise on the foot, the first edition having been published in 1939. The subject is considered in detail under headings of anatomy, physiology, hygiene and general care, and of the various conditions affecting the foot. In addition to this there are chapters on local anaesthesia, plaster of paris and physical therapy, manipulative technique, and orthopedic appliances. The text has been revised since the first edition to include specific instructions for anticoagulant therapy in the treatment of thrombophlebitis, and has in general been brought up to date.

The book will be of interest to the orthopedist because of its thoroughness and its clear statements of the author's views as to the classification and management of conditions affecting the foot. The wealth of details given as to etiology, symptoms and treatment of foot disorders should make it fulfill to the fullest extent the author's expressed desire that the book is a practical one for use by the physician in the care of his patients. It is well illustrated and indexed.—*E. T. H.*

* * *

Medical Gynecology. By James C. Janney, M.D. Published by W. B. Saunders Company, Philadelphia. 432 pages, 108 illustrations. Price $6.50.

This is a concise, yet fairly complete, discussion of the complaints, findings, treatment and examinations relating to an office gynecology practice, with a section devoted to associated social problems. With few exceptions there should be little argument with the treatments and technique recommended by the author. The book should have definite value as a ready reference for the general practitioners.—*R. L. N.*

* * *

The Medical Management of Gastrointestinal Disorders. By Garnett Cheney, M.D. Published by Yearbook Publishers, Chicago. 478 pages, 29 illustrations and charts. Price $6.75.

This interestingly written review of the important field of gastrointestinal diseases, both actual and simulated, might properly be entitled "The Differential Diagnosis of Gastrointestinal Disorders." Dr. Cheney's evident wide clinical experience with the problems he discusses continually emphasizes the needs and pitfalls of accurate diagnosis. Repeated stress is placed upon the proper analysis of presenting complaints: the reader is continually reminded that it is the patient, not alone his disease, which must be treated.

Actual procedure in the management of each problem is divided into a consideration of the principles which must be observed, and a suggestion of a specific technique for carrying them out. These include the most recent developments. Of particular value to the medical student and young practitioner is the frequent inclusion of certain proprietary remedies which conveniently embody useful drugs and combinations of drugs. This device greatly assists in bridging the gap between pharmacology as it must be taught and pharmacy as it is generally practiced today.

Although there are very few citations of the literature, the text is closely knit by suitable cross references, and adequately supplemented by selected collateral readings listed at the close of each chapter. There is also a comprehensive index which makes this available as a useful, though not exhaustive, reference work.

It is our opinion that this book will be especially valuable to students who desire a rational and workable approach to a complex field, and to busy physicians who desire at once to refresh their memories and to keep abreast of proven therapeutic advances. —*W. H. G., Jr.*

Cancer Literature Available

Bibliographies on any topic related to the field of cancer are available to physicians through the library of the American Cancer Society, Inc., according to an announcement recently made by the organization. The Society publishes a bibliography of current cancer literature each month and, on request, will supply reprints on a loan basis to any physician or investigator. Requests should be made to the American Cancer Society, Inc., 17 Beaver Street, New York 4, New York.

The National Gastroenterological Association announces that its course in postgraduate gastroenterology will be given at the Hotel Statler in New York City on October 12, 13 and 14, 1950. Dr. Owen H. Wangensteen, professor of surgery at the University of Minnesota Medical School, will direct the course. Information may be secured from the association, Department GSJ, 1819 Broadway, New York 23, New York.

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ABSTRACTS FROM CURRENT LITERATURE

Artificial Respiration

Effectiveness of Resuscitation and Other Means of Artificial Respiration. By Cecil Shapiro, Current Researches in Anes. and Anal., 29:1-12, Jan.-Feb., 1950.

The author reviews the history of resuscitation from the time of Aristotle, 450 B. C., until the present. Among the earlier methods used, he discusses mouth to mouth insufflation, counter shock by such means as pulling teeth, hot oil, contrast baths, blows on the feet, dilation of the rectum, use of the barrel, i.e. roll on a barrel, in a barrel or over and over like a barrel; fumigation by blowing tobacco smoke into the mouth or rectum. Mechanical methods were introduced in 1530 when fireside bellows were used to force air into mouth or nose of drowning victim.

The most commonly used manual methods of artificial respiration in use today are the Sylvester method, described in 1858; the Schafer prone pressure method described in 1903; the Schafer pressure method combined with the Nielson arm lift; and the Eve method described in 1932. These are described and the relative merits of each discussed. Manual methods, because of their instant applicability anywhere, have a decided advantage over mechanical methods. The importance of the time factor cannot be over emphasized. While each method has its advantages and its disadvantages, any one of these methods if correctly done will move air into and out of the lungs. He repeatedly points out the importance of a patent airway; support of the patient; treatment of shock; persistence in one's effort; and NOT waiting for a mechanical respirator before starting artificial resuscitation.

The first modern apparatus for resuscitation on the bellow principle was the pulmotor introduced in 1911. Both the positive and negative pressure employed were excessive and the apparatus fell into disuse. The more recent resuscitators are built so that O_2 (or a mixture of O_2 and CO_2 is delivered to the patient till a positive pressure of 14 mm. of Hg. is built up under the mark, then the valves are tipped and a suction of —9 Hg. is exerted. The rate is determined by the voulme of the patient's lungs, and the time required for the pressure to arrive at the "blow off" level. Such an apparatus is satisfactory if available, if in good mechanical condition, if the supply of O_2 is adequate, if the airway is patent and unobstructed, and if an experienced operator is immediately available.

The danger of too great a positive pressure is discussed; experimentally in dogs, 52-58 mm. of Hg. pressure will rupture the alveoli. Too much negative pressure applied to the lungs, which are essentially capillary beds filled with blood, may lead to congestion and to an increased tendency to edema and hemorrhage into the alveoli. Conversely it has been shown that positive pressure of 3-4 Mm. of Hg. actually provides a splinting effect on the pulmonary capillaries and has been clinically applied in the treatment of pulmonary edema. The Pneophore has been developed recently and is on the market. It administers O_2 by intermittent positive pressure with an adjustable range from 0-30 cc. of water. The negative pressure phase has been eliminated.

In 1929 Drinker devised the apparatus with which you are all familiar. Its greatest use is in providing mechanical respiration over a long period of time. More recently portable types of apparatus have been developed in which the pressure is applied directly to the chest wall by a metal casing that surrounds the chest only. They function quite efficiently and will provide mechanical respiration for long periods of time.

Resuscitation of the new born infant is discussed with emphasis on gentleness, warmth, removing mucus from pharynx and trachea and artificial respiration with O_2 either with resuscitation or with mask and bag. He points out the value of mouth to mouth breathing, since it is available and provides CO_2 and O_2 and the pressure exerted can be regulated.

The anesthesia machines that are in common use today provide excellent mechanical means for artificial respiration, and the anesthesiologist in his routine work will quite frequently carry the patient in controlled respiration. By this is meant a form of artificial respiration in which the patient's own respiratory efforts are purposely abolished and his ventilation is carried on by the anesthetist. With a gas machine one has all the necessary requirements for successful artificial respiration and the pressure exerted can be controlled and regulated by the touch of the anesthetist on the rebreathing bag.

Drugs are discussed but mostly to condemn their use and to re-emphasize that what the patient needs is O_2 in the lungs and not overstimulation with drugs.

In summary he points out that we have five reliable methods of manual artificial respiration and that these are available anyplace, anytime and that each and every person should master the technic of at least one method.

He points out that a mechanical resuscitator is as safe and as efficient as the intelligence and skill of the person who operates it and no more so. We live in a mechanical age and are apt to be impressed by machines and more particularly so when we do not

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quite understand one particular machine.

Quoting from the report of the British Medical Research Council Committee on "Breathing Machines and their Uses:" "There is a natural tendency among doctors as well as laymen to credit a machine with greater power than the manual method of artificial respiration, and to delay or suspend manual methods pending the arrival of the apparatus. No development or multiplication of apparatus for such treatment can compare in usefulness with the training of members of the community in manual methods of artificial respiration. Breathing machines are required only for protracted failure of respiration."—*H. F. S.*

* * *

Extradural Hematoma

Extradural Hematoma in Infancy and Childhood By Franc D. Ingraham, James B. Campbell and Jonathan Cohen, J.A.M.A., 140: 1010-1013, July 23, 1949.

The authors report 20 patients below the age of 12, each with an extradural hematoma. They state that the clinical observations in extradural hematoma in infants and children are different from those due to the same lesions in adults. Only three showed the familiar loss of consciousness with subsequent lucid interval. The progression of drowsiness to stupor or coma is emphasized. Hemiparesis was common, as were also a dilated pupil on the side of the lesion, and a positive Babinski. Blood loss in the infant may become critical in these cases. Shock is common and transfusion is imperative. The spinal fluid pressure is usually increased, but in several instances is normal.

The authors indicate that the infant skull is less rigid, and therefore less susceptible to injury.

Potential spaces for the collection of extradural hemorrhage exist at the centers of the frontal, parietal and occipital bones, where the attachment of dura to skull is less firm than at the edges. In infants it is more frequently the veins than the middle meningeal artery which are torn, in contrast to the adult.

At operation, wide preparation and draping of the head is advised so that exposure can be made as necessary. Local anesthesia plus open-drop ether are employed. The incision for the initial burr hole is placed so that it can be extended to expose the temporal bone for a classic subtemporal decompression. The dura is opened to inspect the subdural space. Open dural decompression is not employed unless extensive damage to the cortex is evident. Subdural taps through open suture lines may be used in infants. Daily lumbar punctures are used if subarachnoid bleeding persists, and are also indicated in the presence of increased intracranial pressure.

Eighteen of the 20 patients are living.—*T. P. B.*

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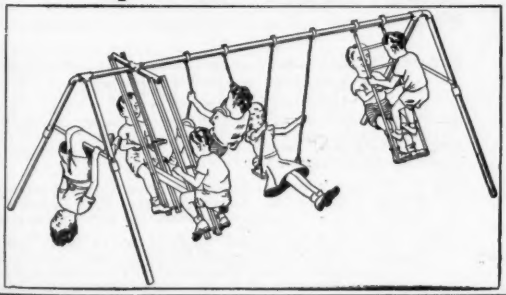

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August 28-September 1—Annual Scientific and Clinical Session, American Congress of Physical Medicine, Hotel Statler, Boston, Massachusetts. Full information from American Congress of Physical Medicine, 30 North Michigan Avenue, Chicago 2, Illinois.